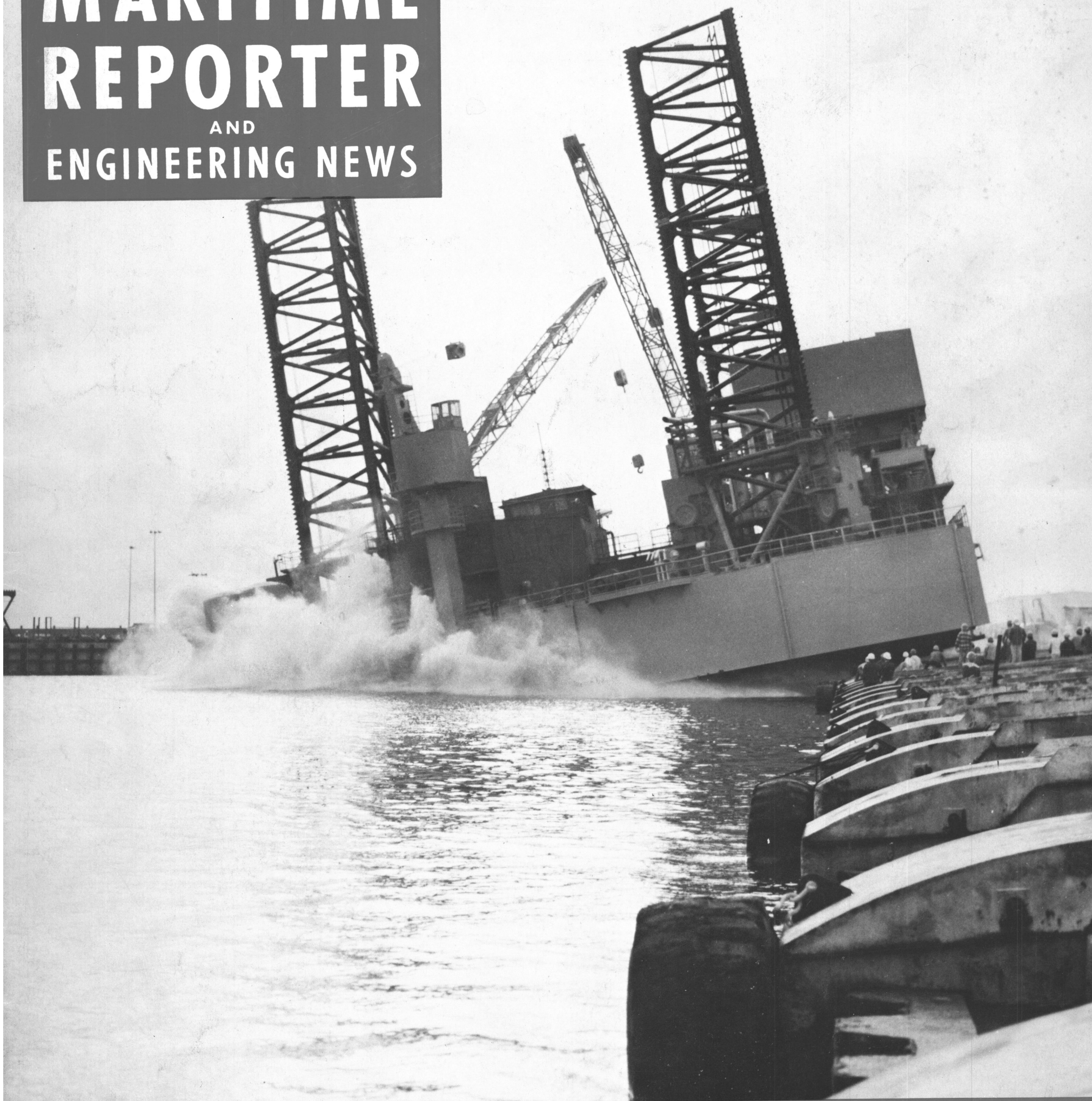


MARITIME REPORTER

AND
ENGINEERING NEWS



**Marathon Launches Unique
Shallow-Draft Cantilevered
Drilling Platform For Chiles**

(SEE PAGE 7)

JANUARY 1, 1978

SYDNEY



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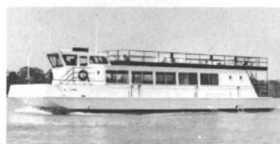
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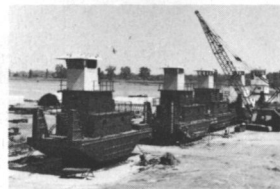
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PASSENGER VESSELS USCG



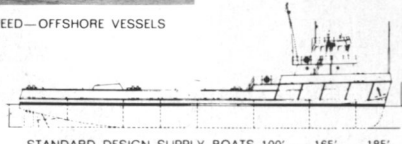
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GHH Sterkrade To Build 15,000-Ton Floating Dock For Neorion Shipyards

A contract has been awarded to Gutehoffnungshutte Sterkrade Aktiengesellschaft (GHH Sterkrade), Oberhausen, West Germany, for the supply of a floating drydock. The order was placed by Neorion Shipyards, Syros S.A. (Aegean Sea), a member of the Goulandris Group, to whom another dock of 25,000 tons capacity was delivered in 1971.

The new drydock will have a lifting capacity of 15,000 tons, a length of approximately 640 feet, a width of 136 feet, and a height of 48 feet. Delivery is scheduled for summer 1978.

Jover Corporation Named To Represent Velcon Filters Inc.

The Jover Corporation, P.O. Box 386, Park Ridge, N.J. 07656, has been appointed manufacturers' representative for the Marine Division of Velcon Filters Inc. of San Jose, Calif., in the states of New York, New Jersey, Connecticut, Pennsylvania, Maryland, Delaware, North and South Carolina, and Georgia. The announcement was made by Joachim Werner, president of The Jover Corporation.

Velcon Filters Inc. is recognized as one of the world leaders in jet fuel filtration systems. The manufacturing program of Velcon Inc. covers oily water systems for marine application in the range from 1/2 gpm up to 600 gpm. Velcon Filters Inc. offers approximately 700 different cartridges of various types, efficiencies, and configurations to meet the individual requirements of its customers.

A substantial number of oily water separators of various capacities have been sold for installation onboard different types of merchant marine and Navy vessels, industrial plants, and research facilities. Velcon oily water separators have been utilized to clean up oil spills on lakes and to remove oil from the ground water.

The Velcon Filters Inc. systems meet USCG and EPA standards for effluent purity.

Further information may be obtained from Mr. Werner at the above address.



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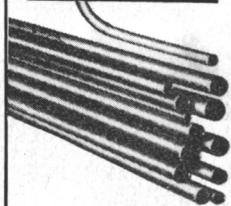
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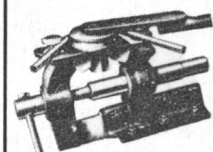


METRIC HYDRAULIC TUBING & FITTINGS

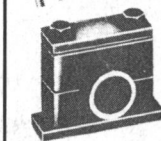
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MARITIME REPORTER AND ENGINEERING NEWS

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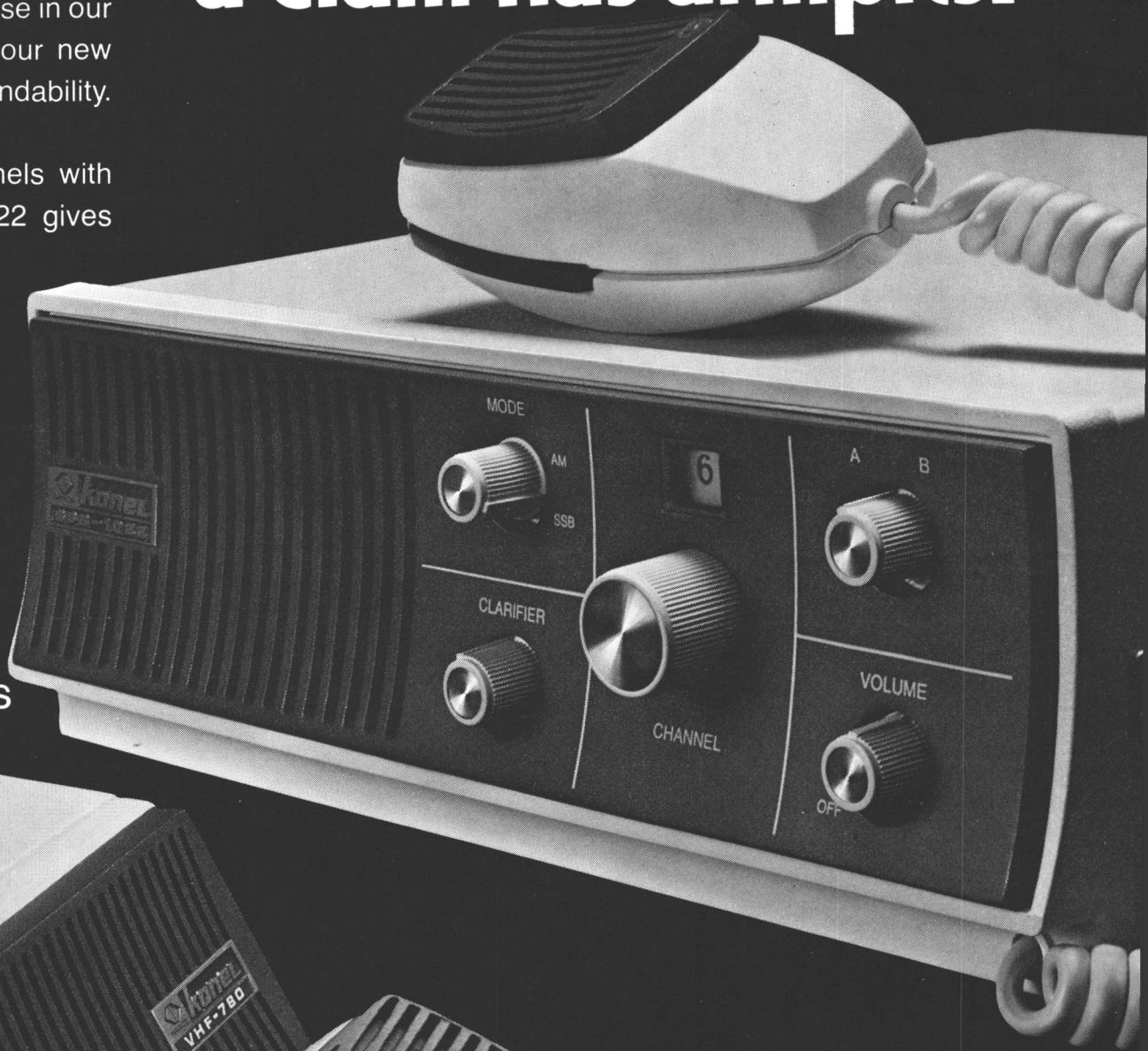
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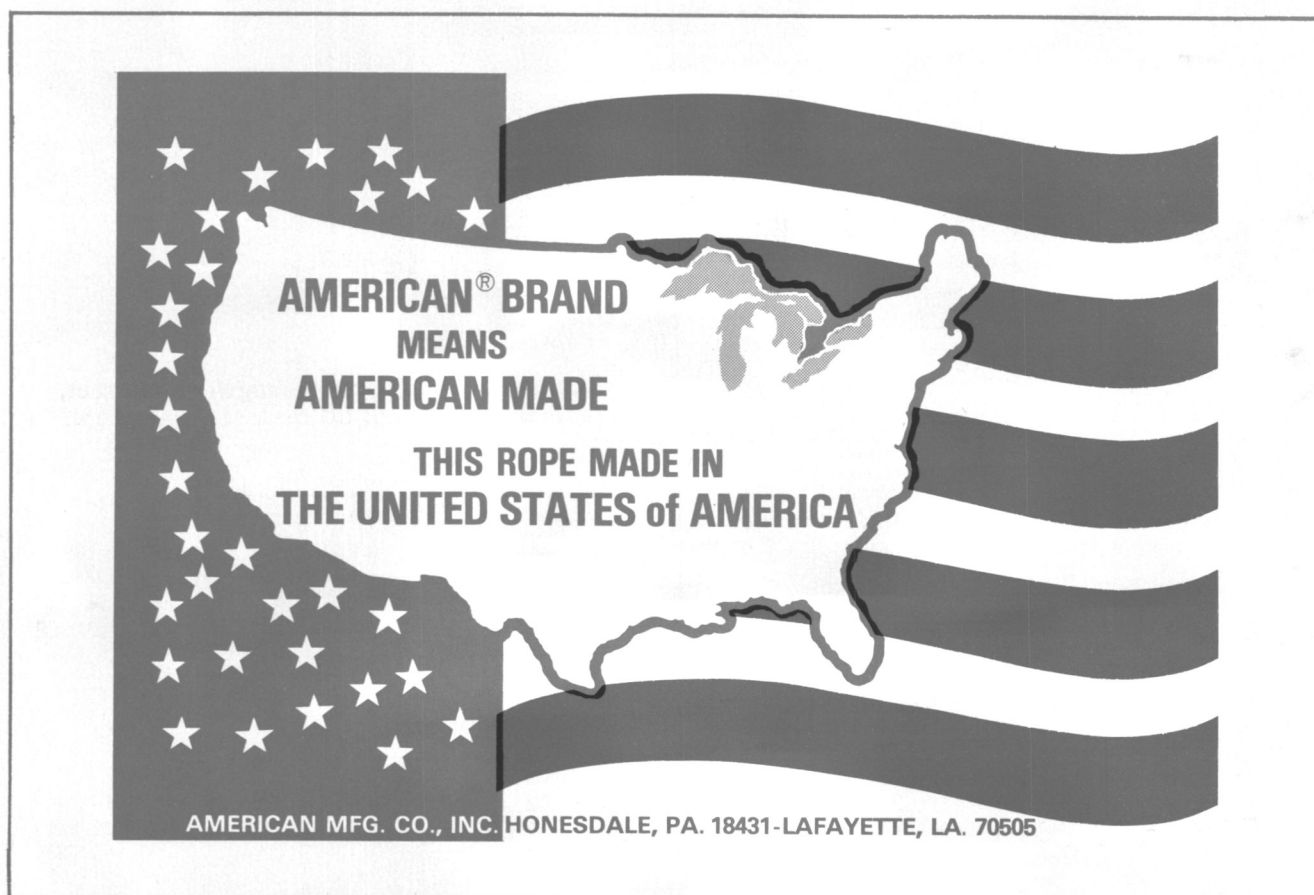
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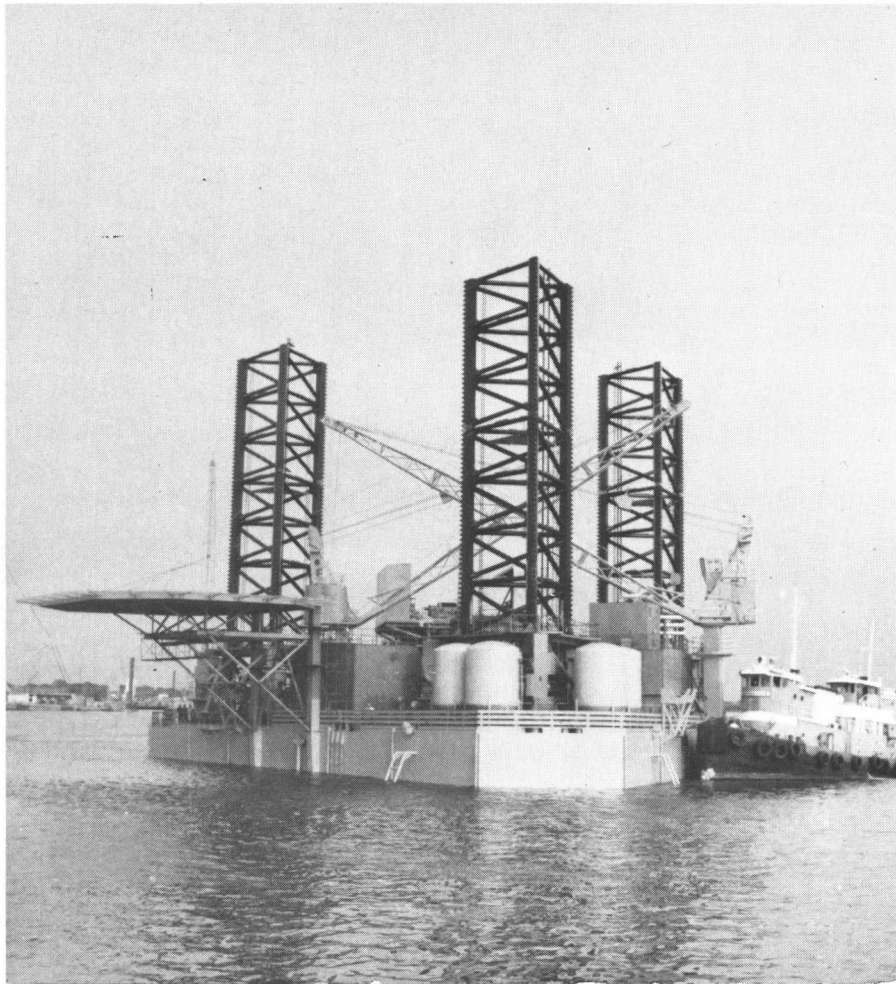
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Marathon Launches New Shallow-Draft Cantilevered Drilling Platform



The unique cantilever design of the Texas Star includes provisions for drilling multiple wells without relocating the rig.

A unique shallow-draft, self-contained and self-elevating cantilevered drilling platform was launched November 22 from Marathon's Brownsville, Texas, shipyard.

The new Marathon 150-44-C class platform is being constructed for Chiles Offshore Limited, Houston. It was officially christened December 16 as the Texas Star, and is expected to begin work soon in the Gulf of Mexico for Mobil Oil Company.

Marathon engineers point out that the relatively small rig—148 feet long by 160 feet wide—can drill multiple wells in one location in water depth as shallow as 15 feet, and as deep as 150 feet. The unit's hull depth is only 16 feet.

The rig's unusual 250-foot-long spud legs are designed to recess into the bottom of the hull—allowing towing over shoals as shallow as 13 to 15 feet.

Development of the 150-44-C cantilevered platform was aimed specifically at relatively shallow-drilling environments such as the Caribbean, the west coast of Africa, and the coastal areas of Indonesia, all of which are comparable to the Gulf of Mexico.

The platform is outfitted for up to 15,000 feet exploratory and development drilling, and heavy duty workover of existing satellite wells or wells of a development platform. A full crew of 40 or more can be accommodated in modern quarters aboard the unit.

A Marathon spokesman pointed out that as a result of the uniquely versatile cantilever design, the 150-44-C unit includes provisions for drilling multiple wells without relocating the rig.

The cantilever feature provides that the rotary can be located from 10 to 35 feet out from the end of the jackup hull, and 7½ feet on either side of the center line, for a 15 by 25-foot drilling platform.

The soon-to-be-christened Texas Star rig has a substructure 24 by 38 feet wide by 14 feet high. When required, the substructure, drill floor and mast can be skidded on the deck of a production platform, and span 30, 40 or 45-foot-wide skid beams with a 10-foot clear height above the platform deck.

Clay Chiles, president of Chiles Drilling Company, general partner of Chiles Offshore Limited, has had many years of experience in land and offshore drilling. The company is located in Houston.

Marathon LeTourneau Company, Marine Division, is a subsidiary of Marathon Manufacturing Company, Houston. The parent firm is a multiproduct company serving industries in marine construction and transportation, heavy equipment and steel products, as well as a group of diversified companies producing chemicals, batteries, consumer goods and providing paving and utility services.

Newport News Ship Receives \$20-Million Contract From Navy

Newport News Shipbuilding and Dry Dock Company, Newport News, Va., is receiving a \$20,000,000 negotiated letter contract with a limitation of Government liability for planning and procurement of long lead-time materials for the construction of Guided Missile Cruiser (CGN-42). The Naval Sea Systems Command is the contracting activity.

Contracts Signed For Cumberland Shipping Ro/Ro Barge Vessel

Contracts were signed on December 22, 1977, for the subsidized construction of a self-propelled, roll-on/roll-off (ro/ro) barge vessel at Seatrain Shipbuilding Corp., New York, N.Y. The negotiated fixed-price of the commercial vessel is \$12,796,324.

The vessel, which will have the capacity to carry 113 forty-foot trailers, is the first of its kind to be built with the aid of construction-differential subsidy. It will have an overall length of 446 feet, a beam of 80 feet, and a depth of 27½ feet.

The Maritime Administration will pay \$5,286,324, or 41.34 percent, of the cost of the vessel. This represents the difference between the fixed price and the estimated cost of having the vessel built in a foreign shipyard. The government also will pay the entire cost of \$43,292 for national defense features incorporated in the vessel.

The ro/ro is being built for Cumberland Shipping Company, Inc., One Chase Manhattan Plaza, New York, N.Y. Cumberland plans to use it in the U.S. foreign trade, primarily in the Caribbean.

Propulsion Systems, Inc. Receives Order From Equitable Shipyards, Inc.

P.K. Wennberg, president and chief executive officer of Propulsion Systems, Inc., Kent, Wash., has announced the receipt of a contract to provide three PSI/Frydenbo type HS-180 rotary vane steering systems to Equitable Shipyards, Inc., New Orleans, La., for installation aboard the American Marine Industries, Inc., general cargo carriers.

The systems will utilize the patented PSI / Rate-Conn control systems. The PSI/Frydenbo steering system has long been recognized for its reliability, ruggedized simplicity, and ease of maintenance. To date, over 4,000 of these steering systems have been installed in all classes of ships around the world.

Address inquiries to Propulsion Systems, Inc., 21213 76th Avenue South, Kent, Wash. 98031.

Nilsson To Head Sales Organization For Kockums Shipyard



Gunnar Nilsson

A new marketing organization has been organized at Kockums Shipyard, Malmo, Sweden, under director Gunnar Nilsson. The new marketing section includes departments for research and development, projection, calculation and customer contact.

The new organization will improve integration of existing marketing resources at Kockums Shipyard, with increasing emphasis on far advanced products, such as LNG carriers, along with continuing diversification.

Mr. Nilsson has set up two groups for customer contacts. The group for North America, based in New York, will continue under Homer Knopp. The second group, responsible for markets in the rest of the world, will be run by Helge Stroem-Olsen and Per Dahlgren.

Kjell Restad will remain as head of the Projection Department and Kjell Bengtsson is in charge of the Calculations Department. A separate department for research and development will be directed by Claes Ljunggren.

Request Title XI To Construct \$29-Million Self-Propelled Dredge

Eagle Dredging Corporation, Suite 3700, One Shell Square, New Orleans, La., has applied to the U.S. Department of Commerce, Maritime Administration, for a Title XI guarantee to aid in financing the construction of a self-propelled hopper suction dredge.

The approximate dimensions of the proposed dredge include an overall length of 238 feet, a molded beam of 68 feet, and a depth of 24 feet. The diesel-powered vessel will have an estimated gross tonnage of 4,120, and a cargo capacity of 4,580 cubic yards.

The estimated cost of the vessel is approximately \$29.8 million. A shipyard for the project has not yet been determined.

The application states that the vessel will be built "for commercial use in coastwise, intracoastal, or foreign trade, and upon the Great Lakes, rivers, harbors, and inland lakes of the United States.

Lockheed In Joint Venture With Rendel, Palmer & Tritton To Seek Ocean Engineering Project

Lockheed Missiles & Space Company, a major U.S. aerospace company, and Rendel, Palmer and Tritton, a 140-year-old British consulting and design engineering partnership, have entered into an arrangement whereby their combined expertise in ocean engineering can add a capability not formerly available to the offshore industry.

Among its projects, Rendel, Palmer and Tritton has worked throughout the world for the last 30 years, particularly in the Middle East and more recently in the North Sea, with marine projects and terminal installations, and is currently managing the Thames River Moveable Barrier Project.

Lockheed, heavily engaged in ocean engineering for more than 14 years, has designed, built and operated submersibles, is a prime

contractor to the U.S. Government's Department of Energy for the development of ocean thermal energy conversion systems, has formed an international consortium for mining and processing deep ocean manganese nodules, and is currently under contract to several major oil companies for engineering and hardware services.

The agreement provides that either company may, as circumstances dictate, assume the prime contractor role, supported as required by the other. Both firms remain free to pursue independently their normal lines of business, according to **James G. Wenzel**, vice president for the Lockheed Ocean Systems organization.

Headquartered in London, Rendel, Palmer and Tritton maintains offices in North Africa, the Middle East and Australia. Ocean Systems is based at Lockheed Missiles & Space Co., Sunnyvale, Calif. 94086, and operates the Lockheed Ocean Laboratory at San Diego, Calif.

Equitable Shipyards Delivers Third Oceangoing Deck Barge For McDonough Marine Service

Equitable Shipyards, Inc., New Orleans, La., has delivered a third new steel oceangoing, deck cargo barge to McDonough Marine Service, New Orleans, for operation in offshore oil and gas fields. All three barges in the new fleet for McDonough have overall dimensions of 240 feet by 72 feet by 16 feet, and were built to American Bureau of Shipping Class "Maltese Cross A-1" unrestricted ocean service specifications and United States Coast Guard certification requirements.



The 240-foot by 72-foot by 16-foot Marmac 3, shown above, is scheduled for operation in offshore oil and gas fields.

Two of the three barges were built at Equitable Shipyards in Madisonville, La., and one was built at its New Orleans shipyard.

The delivery of the three barges, Marmac 1, Marmac 2, and Marmac 3, to McDonough Marine Service marks the beginning of a major expansion of the company's service to the maritime industry. The company owns a large fleet of inland, coastal and ocean barges. The new and large vessels being built by Equitable Shipyards will expand the operational capabilities in most of the oil and gas exploration and producing areas of the world, including the North Sea, the Arabian Gulf and Africa.

The primary business of McDonough Marine is the leasing of barges for a variety of operations within the inland and offshore marine industries. The company, founded in 1946, owns its fleet and is engaged in both domestic and foreign operations. Operation offices for the company are in New Orleans; the home office is in Parkersburg, W. Va., and the firm has branch offices in Houston, Texas.

Equitable Shipyards, Inc. is a wholly owned subsidiary of Trinity Industries, Inc. of Dallas, Texas, a manufacturer of industrial marine and structural metal products.

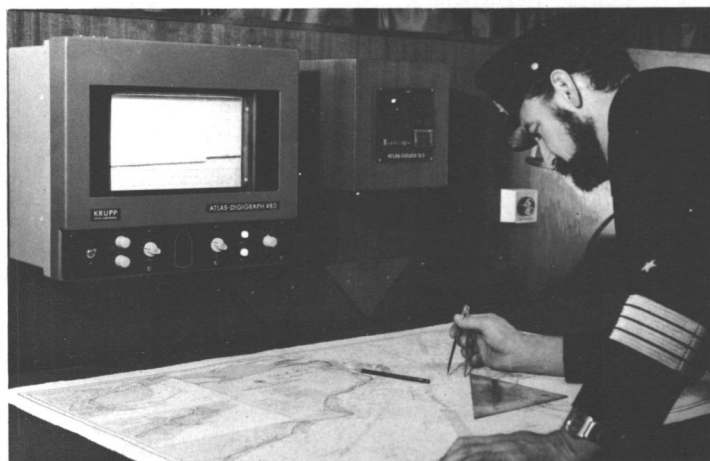
Hull And Cargo Surveyors Brochure Describes Services

Hull and Cargo Surveyors, Inc. has recently published a brochure describing the services provided to both marine and marine-oriented service organizations.

A subsidiary of Marine Office of America Corporation, Hull and Cargo Surveyors, Inc. inspects and services all types of ocean marine and transportation risks, including oil rigs, LNG spheres and nuclear reactors. Offices are located in all major U.S. ports and operate on a worldwide basis.

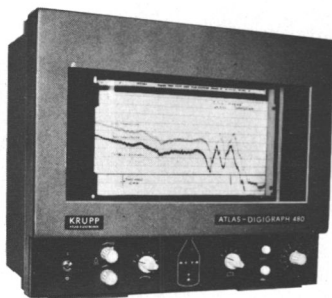
A free copy of the brochure is available upon request to **William J. Killen**, The Corporate Communications Department, Hull and Cargo Surveyors, Inc., 80 Maiden Lane, New York, N.Y. 10038.

Atlas complies with U.S. Coast Guard rules for navigation recorders!

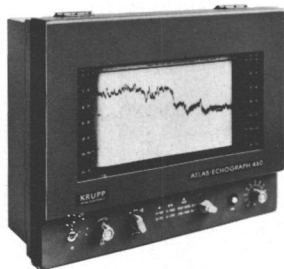


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ATLAS DIGIGRAPH 480 ATLAS 460



ATLAS 480



ATLAS 460

Both the ATLAS DIGIGRAPH 480 and the ATLAS 460 comply with the U.S. Coast Guard rule effective June 1, 1977 requiring all vessels of 1600 gross tons or more operating on the navigable waters of the U.S. to be equipped with 'an echo depth sounding device, a device that can continuously record the depth readings of the vessel's echo depth sounding device'.

The Atlas navigation sounders ATLAS DIGIGRAPH 480 and ATLAS 460 fulfill this USCG requirement, and in addition comply with all IMCO recommendations.

The ATLAS DIGIGRAPH 480 offers a unique range selection from 5 fms for shallow navigation and berthing, to 500 fms for deep water navigation. Operating ranges can be converted from fathoms to meters merely by pushing a button. On shallow ranges, bottom soundings from two transducers can be recorded simultaneously — (up to four transducers can be monitored in groups of two). The selected range and the bottom recording are digitally displayed, and an automatic 15 minute time mark and event marker features are included. Optional plug-in type transducers can be supplied for replacement without dry docking.

The ATLAS 460 offers the same rugged reliability as the more sophisticated DIGIGRAPH 480. The ATLAS 460's three ranges are switchable from fathoms to meters. Maximum depth is 500 fathoms (1000 meters), and the shallow water range is 0-25 fms with a minimum sounding depth of approximately 0.3 fathoms. An event marker is included. Operation with two transducers, switchable at choice, is optional. Plug-in transducers are available.

Both recorders can be fitted with remote digital readouts — ATLAS FILIA 520, and an alarm unit ATLAS ALARM 525.



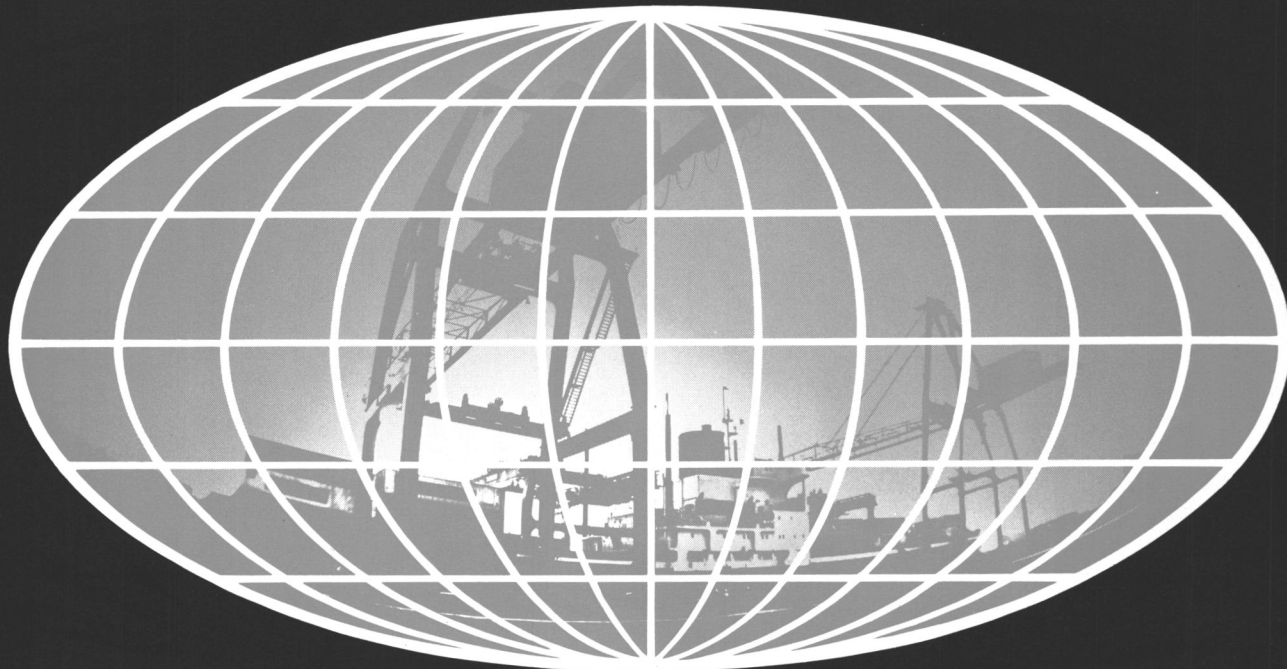
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Five Firms Launch Maritime Data System

A worldwide computer network has been launched by five firms in a joint venture which provides clients with maritime industry information.

Lloyd's Register of Shipping, Lloyd's of London Press Limited, Phs, Van Ommeren International B.V., Fairfield International Corp.

and Marine Management Systems, Inc. have sponsored the new endeavor. Maritime Data Network Ltd. is a development of an on-line computer service introduced by Marine Management Systems last year.

Users of the new system can dial a local telephone number linking them to the terminal on-line and type requests for an instant printout on data sought.

In the case of a charterer seeking a vessel, he will be provided with a fixture file for current rates within a size range, vessel characteristics and a file on casualty returns for reported ship problems.

According to the joint announcement, the new facility will provide worldwide shipping interests instant access to data files on most worldwide shipping, vessel

movements, fixtures and tanker casualty returns.

The announcement adds that the service will eventually be expanded to include ship sales information, builder, owner, director and port information.

The new company will initially have headquarters in the Stamford, Conn., offices of Marine Management Systems.

Santa Fe Engineering Names Billy Ennis VP



Billy M. Ennis

Billy M. Ennis has been promoted to vice president of Santa Fe Engineering & Construction Co., and assigned to company headquarters in Orange, Calif., as operations manager-marine construction.

For the past five years, Mr. Ennis was assigned to the company's offshore construction and pipelaying operations in the North Sea. He was North Sea area manager in Leith, Scotland, since September 1976.

In his new assignment, Mr. Ennis will have responsibility for all Santa Fe construction and pipelaying vessels in both the North Sea and the Gulf of Mexico, including the reel ship Apache currently under construction in Galveston, Texas. He will continue to report to Ben B. Creel, senior vice president and general manager of marine construction.

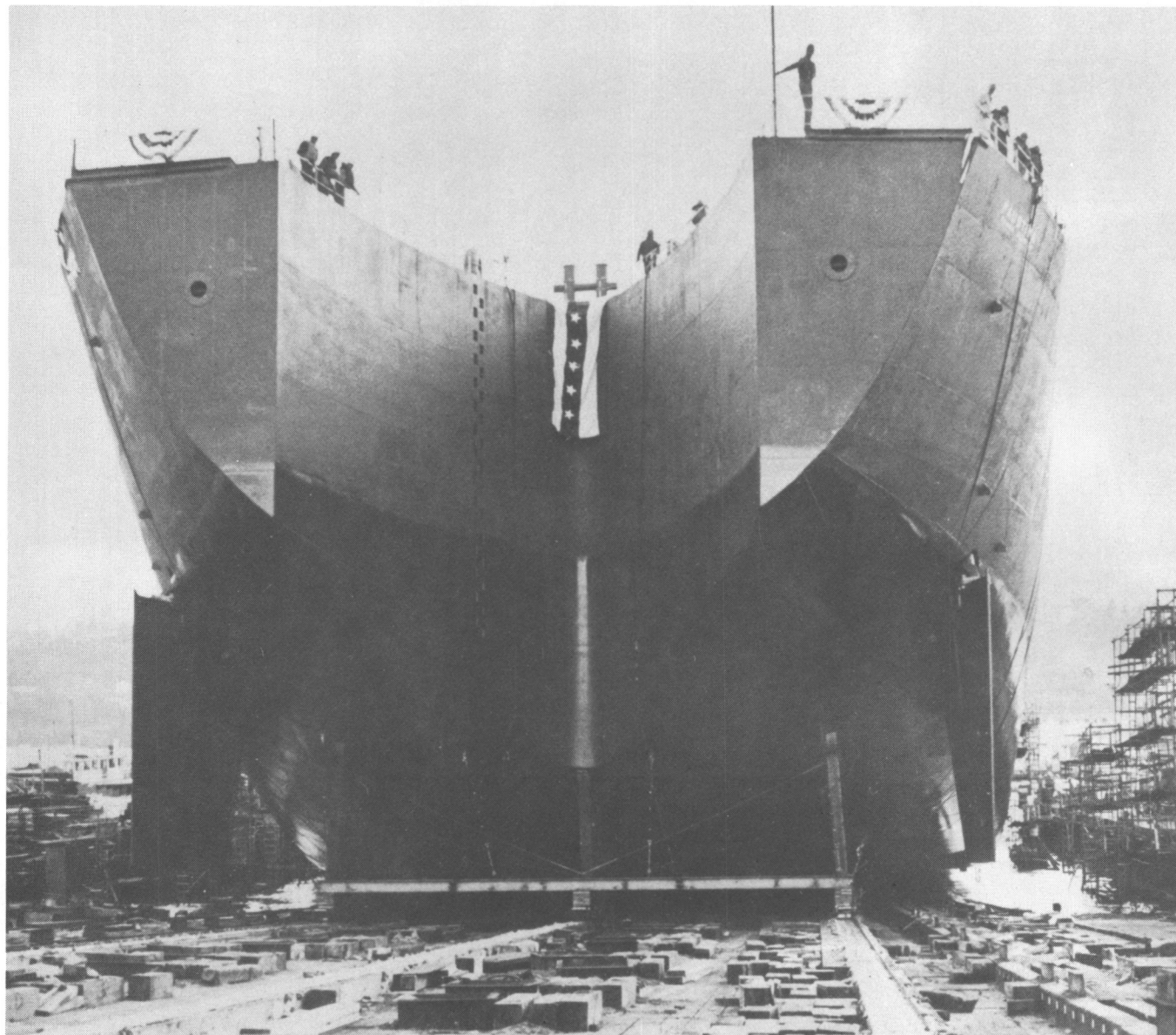
Mr. Ennis is a 1959 civil engineering graduate of Texas Technological College, and worked for a major oil company on the U.S. Gulf Coast for 13 years before joining Santa Fe.

Gary L. Matlock succeeded Mr. Ennis as area manager in the North Sea.

Santa Fe Engineering & Construction Co. is a subsidiary of Santa Fe International Corp.

Hydronautics Receives \$3,625,220 Contract

Hydronautics, Inc., 7210 Pindell School Road, Laurel, Md. 20810, is receiving a \$3,625,220 negotiated cost plus fixed fee contract to install Government furnished experimental gas turbine engines in a modified 95-foot fast patrol craft (PTF) and provide associated conversion support, engineering support, spare parts and data. Work will be performed at Laurel, Md. and Arlington, Va. The Naval Sea Systems Command is the contracting activity.



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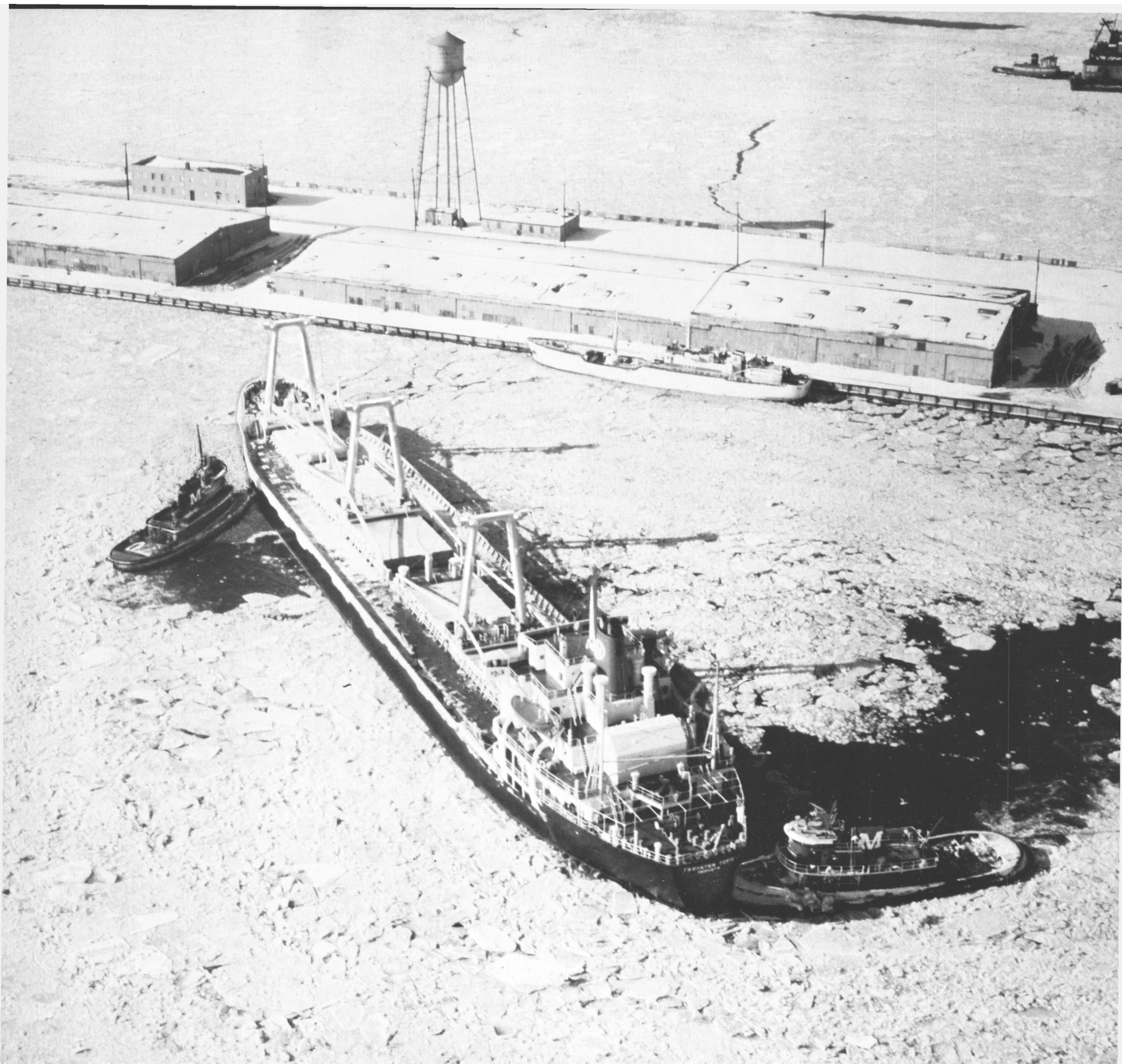
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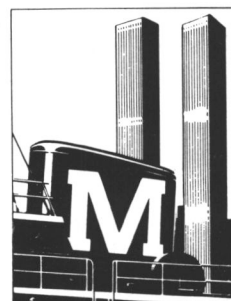
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Campbell Industries Names Arthur Yeend



Arthur J. Yeend

Arthur J. Yeend has been named assistant to the president of Campbell Industries, San Diego, Calif. 92112, with primary responsibilities in the area of development and improvements in the company's fishing vessel construction programs.

Although he has been absent for a few years, Mr. Yeend is no stranger to the San Diego waterfront. He previously worked a total of 14 years for San Diego Marine Construction Corp., a Campbell subsidiary, heading up that shipyard as general manager when last with the firm. He has since managed the construction of a shipyard in Mexico, and served as president and chief operating officer for Trident Fisheries Group.

In his new role, it is anticipated

that Mr. Yeend will contribute greatly to the future of Campbell Industries, drawing on his vast experience in the shipbuilding and fishing industries.

Peterson Awarded Contract To Build Fireboat For Detroit

Peterson Builders, Inc. of Sturgeon Bay, Wis., has been awarded a contract with the City of Detroit to construct and deliver a 77-foot high-speed aluminum fireboat. The hull of the vessel, specially designed for operation in the ice-filled waters of the Detroit River and the surrounding Seaway, will be about 78 feet long, 22 feet wide and 9 feet deep with a draft of less than 6 feet. The boat is designed for a speed of over 20 knots, and with all four fire pumps in operation can deliver 9,700 gallons per minute.

Included in the firefighting gear on the boat are four, 4-inch deluge monitors and a 50-foot telescoping ladder tower which enables the vessel's captain to direct water down into burning ships or on shoreside installations; the ladder on the telescoping tower also permits access to and evacuation from waterfront buildings or ships. A foam system enables it to fight petroleum fires.

Unique features of the craft are stern propulsion jets and bow

thruster nozzles which operate from the fire main. This feature enables the fire pump engines to augment the main engines and propellers, giving an additional speed boost to the craft in dash responses to fire calls. The bow thruster nozzles are of great benefit when maneuvering in close quarters.

Three of the vessel's pumps deliver firefighting water at a pressure of 150 pounds per square inch; but a fourth pump, driven from one main propulsion engine, is rated at 400 pounds per square inch. This high pressure is necessary to provide protection to some of the towering buildings along Detroit's recently rebuilt waterfront.

Electrical power will be furnished by two 50-kw diesel generator sets. All of the propulsion and generating engines, appropriately, will be Detroit Diesel and include 12V-149 propulsion engines, 12V-71 main pump engines and model 3-71 generators.

The contract design of the vessel was prepared by John W. Gilbert Associates, Inc. of Boston, Mass., designers of several successful fireboats constructed in recent years.

The new vessel adds further to PBI's aluminum building diversity, and supplements current contracts for construction of 50-foot and 65-foot aluminum patrol boats and 190-foot gunboats.

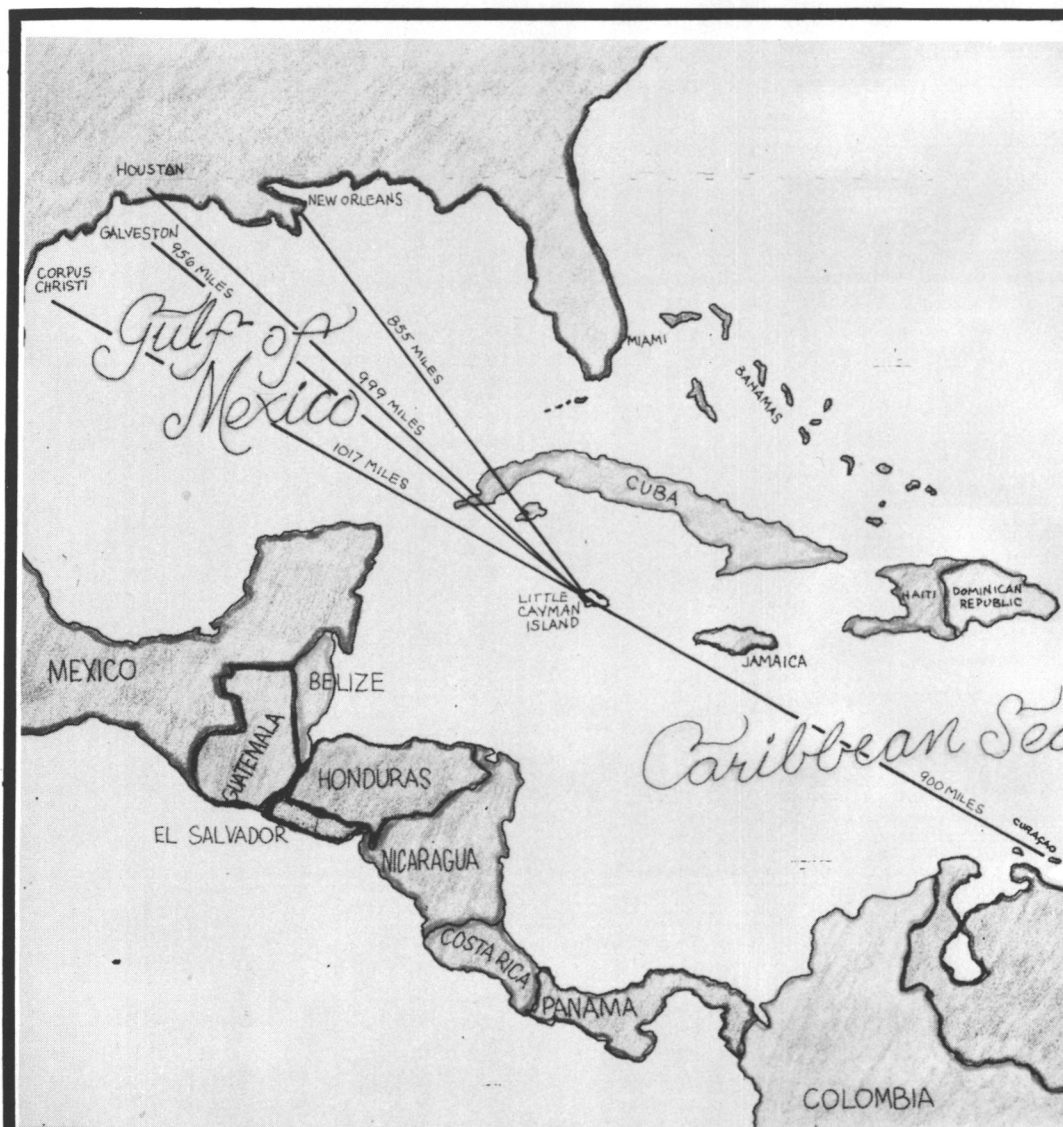
Propeller Club Announces Students Essay Contest

The Propeller Club of the United States has announced its 43rd Harold Harding Annual Maritime Essay Contest for High School Students, and its Second National Maritime Essay Contest for College Students.

Capt. Robert E. Hart, president of The Propeller Club Port of New York, stated that the Honorable John M. Murphy, Chairman of the House Merchant Marine Fisheries Committee, is honorary chairman for the Port Committee, and that Prof. Lester A. Dutcher, chairman, Department of Marine Transportation, State University of New York Maritime College, is the general chairman of the committee.

In addition to increasing public awareness of the maritime industry and its importance to our nation, the objective of the essay contest is to stimulate interest in career opportunities in the United States merchant marine. Prizes at the high school level include voyages aboard United States-flag vessels. At the college level, cash prizes totaling \$1,400 will be awarded. The contest concludes on March 1, 1978.

For further information, contact Professor Dutcher at the State University of New York Maritime College, Fort Schuyler, Bronx, N.Y. 10415.



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H.E. Engelbrecht Acquires Lexington Transport Corp. —Opens New Offices



Capt. Henry E. Engelbrecht

Capt. Henry E. Engelbrecht, formerly vice president in charge of operations for the United Tanker Group, has acquired Lexington Transport Corporation.

Sinnan Pu and Capt. Nick Ni, also formerly of United Tanker, have joined Lexington in the capacities of vice president-engineering and assistant vice president-operations, respectively.

Chris Vournas, formerly associated with Winco Tankers, Inc., has been appointed controller, and Elvira Randisi, also formerly of United, has joined as executive secretary.

Lexington presently operates two special-purpose tankers and one bulk carrier. In keeping with Lexington's expansion program, an additional handy sized tanker and bulk carrier are to be shortly added to the fleet.

Lexington's new offices are located at 551 Fifth Avenue, New York, N.Y. 10017.

United States Lines Names James B. Rose Port Manager In Norfolk

The appointment of James B. Rose as port manager for United States Lines at Norfolk, Va., was announced by William J. Klau-berg, vice president, Eastern Division. Mr. Rose succeeds Frank Wilson Babb, who reached retirement age after being with the line since 1946.

Mr. Rose was previously owner's representative for the company in Hawaii, serving there since 1972. Previously, he held management positions with the firm in London, Europe, and the United States. He joined United States Lines in 1947.

Mr. Rose attended Cornell University and graduated from the Merchant Marine Academy at Kings Point, N.Y.

United States Lines' 15,000-mile Tri-Continent containerliner service provides 39 fast vessels traveling between Europe, the East and West Coasts of the United States, Bermuda, Panama, Costa Rica, Hawaii, Guam, and Far East and Southeast Asian ports.

New Towing Systems Report Now Available To Maritime Industry

The marine industry's first extensive reappraisal of traditional ocean towing methods is now available from Samson Ocean Systems, Inc. Entitled "Samson Towing Systems," AR-12/5-77, the 12-page report provides in-depth

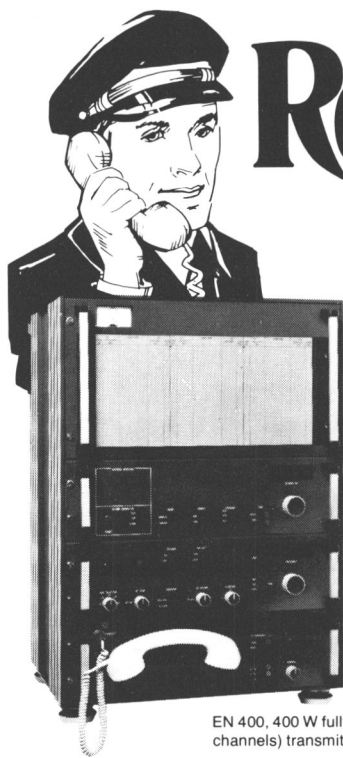
analyses of Wire Rope Towing Methods vs. Synthetic Fiber Rope Towing Methods.

The Towing Systems Report details the advantages of Synthetic Fiber Rope Systems, based on the results of U.S. Navy tests and described in a 1977 NAVSEC report. Tows made by the USS Brunswick, the USS Molala, and the BAR 347 pipe-lay barge are also described.

The AR-12 includes sections on

Towing Criteria, Rope Catenary, Tow Rope Elasticity, Hooking Up, MC Spring Line Systems, Hardware Specifications, and Traction Winch Data. Drawings, graphs, charts, and photographs provide additional information.

Copies of the "Towing Systems Report," AR-12/5-77, may be obtained by writing to Gale Foster, Samson Ocean Systems, Inc., Marine and Industrial Division, 99 High Street, Boston, Mass. 02110.



EN 400, 400 W fully synthesized (100 channels) transmitter/receiver

Ready for real ssb? Electro-Nav is ready for you.

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We checked out just about every unit around, both foreign and domestic. We tested performance under a wide range of actual operating environments, studied track records on frequency and speed of repairs, and compared prices. On the basis of the data we selected 4 units, made by three top manufacturers. Each unit is a natural for one particular range of operating characteristics. And each gives you the best value for your dollar within its class.

Top of the line is a synthesized 1500 watt transmitter that will give you world-wide ship-to-shore service, anytime, anywhere. It has telex capability, and a lot more.

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Third, a new synthesized 400 watt radio telephone transmitter-receiver with excellent extra long range capability. We're so proud of this one we've arranged to put the Electro-Nav name on it.

Fourth, a 125 watt crystal-controlled transceiver that will give you proven superb performance throughout its range. It's unbeatable for coastwise and nearby foreign communications.

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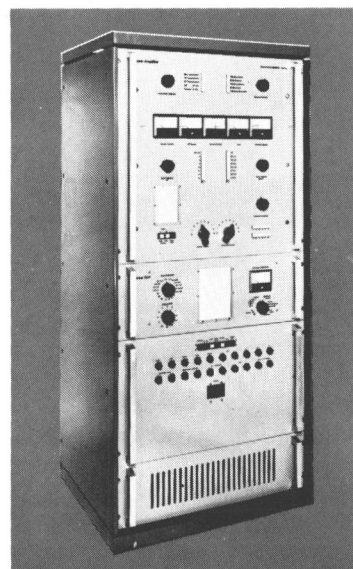
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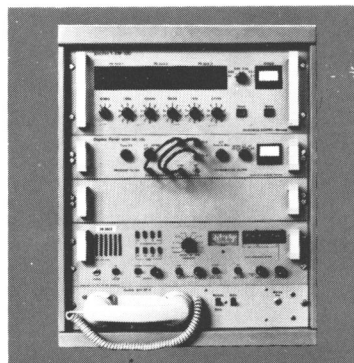
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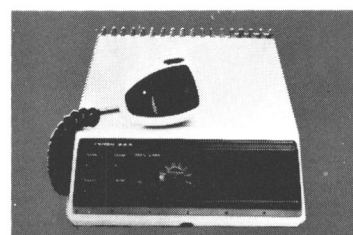
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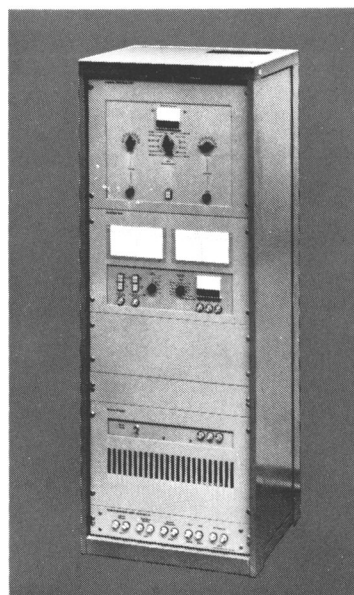
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Modar 150 W 12 channel SSB Radiotelephone



Orion fully synthesized (unlimited channels) solid state 600 W Telegraph Radiotelephone/transmitter

Dr. Dean Rains Presents Paper At Pascagoula Section Meeting Of ASNE



Shown at the meeting, left to right: E. Carlson, R. Kiss, Dr. Dean Rains (Ingalls Shipbuilding), John Nachtsheim (past ASNE president), Mrs. Kay Bennett (Ingalls, treasurer of ASNE), and A.C. LiCausi (chairman, Pascagoula Section).

The Pascagoula Section of The American Society of Naval Engineers met recently at the TiKi Restaurant in Gautier, Miss., to hear a paper by Dr. Dean Rains of the Advanced Programs Group of Ingalls Shipbuilding. The paper discussed the Air Capable variants of the DD963-class ships and the use of VSTOL aircraft.

The business meeting was chaired by A.C. LiCausi, Section chairman. The minutes of the September meeting were read and approved. Mrs. Kay Bennett, the treasurer, read the treasurer's report.

The chapter was pleased to have as its guests John Nachtsheim, past ASNE president, R. Kiss and

E. Carlson. Mr. Nachtsheim spoke to the membership of the national organization's goals and objectives and its success in the past years, particularly the success of the symposiums held in San Diego, Calif., and most recently in Annapolis, Md.

The new members recognized were W.H. Wheeler and R.W. Erskine. The Pascagoula Section membership drive has netted 19 new members, which exceeds any other ASNE section sign-ups.

The chairman reminded the members that the next session, January 17, 1978, would select new officers for a term of 18 months to match the Flagship Section terms of office.

Lucian Q. Moffitt Opens Seattle Warehouse— Names M & K Sales Co.

Lucian Q. Moffitt, Inc. of Akron, Ohio, has opened a new warehouse service center in Seattle, Wash., and has named M & K Sales Co., Seattle, as manufacturer's representative serving Washington, Oregon, and British Columbia, Canada.

Moffitt, a leading distributor of marine bearings, will establish a complete stock of B.F. Goodrich Cutless® marine bearings in sleeve and flange types at the warehouse. The bearings will be stocked in shaft sizes to 10 inches. Additional product lines by B.F. Goodrich will be added at the warehouse early this year according to Claire A. Drach, president of Moffitt.

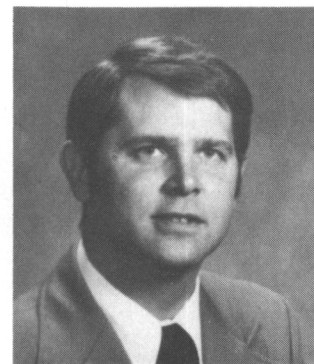
The new warehouse, which is located at 999 North Northlake Way, Seattle, is managed by Ray Biggs.

M & K Sales Co. is owned by Ronald G. Marston and is located at 18215 Linden Avenue North, Seattle. Mr. Marston has operated the company since 1957.

Mr. Marston, a native of Vancouver, British Columbia, is a graduate of King Edward High School in Vancouver and has B.A. and M.A. degrees in engineering.

Prior to opening M & K Sales Co., he owned Ron Marston Co. from 1946-56.

J.W. Huls Joins Inland Oil & Transport



J.W. Huls

Inland Oil and Transport Company has named J.W. Huls as its new marketing manager-water transportation. The announcement was made by Herbert Wolkowitz, president of the St. Louis, Mo.-based barge line.

Mr. Huls has over 15 years of intermodal transportation experience, most recently as traffic manager for SCNO Barge Lines, Inc. Prior to that, he was with Proctor & Gamble and Rock Island Railroad in traffic and sales capacities.

A native of St. Louis, Mr. Huls is a graduate of St. Louis University and is currently pursuing graduate studies at Webster College. He is an active volunteer with the Boy Scout Council, and a member of Delta Nu Alpha Transportation Fraternity, The Propeller Club of the U.S., and the St. Louis Traffic Club.

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- ★ Precise gauging to $\pm 1/8"$
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Luckenbach And Lavino Named Agents For Cuban Fishing Fleet In U.S.A.

Luckenbach International Corporation of 21 East 66th Street, New York, N.Y. 10021, in conjunction with its associate, Lavino Shipping Company, headquartered in Philadelphia, Pa., have been appointed agents for the Cuban fishing fleet in the United States.

An agreement between the Cuban Government, headed by **Orlando Muniz**, Chief Inspector for International Fishing Regulations, and the United States Government was signed on December 6, 1977, in Washington, D.C. The first vessel, the Playa Duaba, arrived December 10 in New York Harbor and anchored at the Bay Ridge flats.

The ships will fish on the Grand Bank on a trial basis, with the expectations of increasing the size of the fleet in 1978, based on the outcome of current negotiations between the two governments.

This is the first time a Cuban vessel has called legally at an American port since the breakoff of relations between the two governments in the 1960s.

HUD Adds Giant Floating Drydock

Hong Kong will soon be able to offer some of the world's most up-to-date ship repair facilities, according to **Jack Barrass** of Hongkong United Dockyards.

The facilities will incorporate a giant HK\$40-million floating drydock which was constructed in Sasebo, Japan. According to Mr. Barrass, who supervised the construction, the 220-meter dock (approximately 722 feet) will be able to handle vessels up to 70,000 deadweight tons, which are the largest-sized ships that can traverse the Panama Canal, and even giant container ships for repair, conversion and maintenance work. The new dock, which was towed from Japan, arrived in Hong Kong last month. It was moored at HUD's new yard at Tsing Yi Island, being secured by 24 mooring cables of 88 mm diameter attached to 24-140 ton anchors.

Executives from Hongkong United Dockyards, including HUD's managing director **David Hall**, visited Japan for the official naming ceremony.

The giant dock was towed in one piece to Hong Kong, and on arrival was taken to HUD's Taikoo yard for the fitting of cranes—one of 50 tons and one of 15 tons, and other ancillary equipment.

According to Mr. Barrass, HUD decided on a floating dock due to its adaptability—the dock is movable as well as being unaffected by tides. The dock will be remote

controlled from a control house on the top deck.

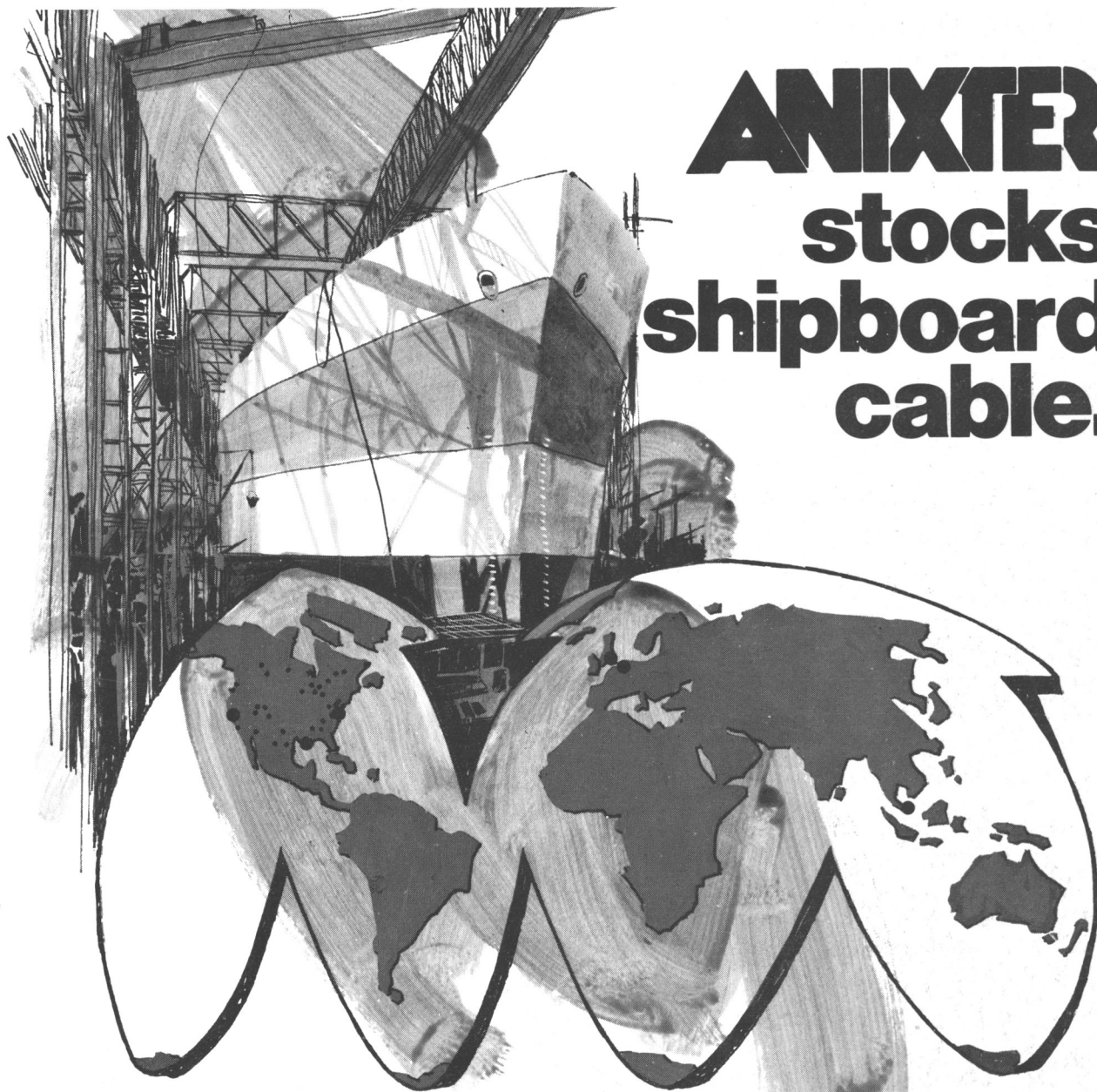
The floating dock is part of the new dockyard complex being built for a sum of HK\$250 million on Tsing Yi Island. The complex, covering approximately 186,050 square meters (2 million square feet) of land and seabed, will be completed by the early 1980s, with the \$250-million phase I of the development allowing the first ships to dock in the spring of 1978.

TBW Industries Opens Office In Rio de Janeiro

TBW Industries, Incorporated, a leading manufacturer of offshore deck equipment and pneumatic bulk material systems, has opened an office in Rio de Janeiro, Brazil, to handle its sales and manufacturing activities in South America. TBW Industries will be represented by **Manuel de Sousa Santos**.

TBW Industries has also entered into manufacturing agreements with two Brazilian companies. Its Smatco line of winches and deck equipment will be built by Irmaos Strauhs Ltda., and its PNU-Tank line of cement and barite tanks by CEC.

For more information, write TBW Industries, Incorporated, P.O. Box 4036, Houma, La., Attention: **Mike Bordelon**.



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Capt. Francis B. Crocco Honored By Coast Guard

Adm. O.W. Siler, United States Coast Guard Commandant, recently presented the United States Coast Guard Distinguished Public Service Award to Capt. Francis B. Crocco, USNR (ret.), who heads the firm of Francis B. Crocco, Inc., San Juan, Puerto Rico.



Admiral Siler congratulates Captain Crocco during the award ceremonies.

The citation, which was awarded at the recent Navy League Convention in Washington, D.C., reads as follows:

"For his personal and direct contribution to the Coast Guard in providing exceptional coordination with the international maritime community in Puerto Rico. Capt. Crocco has worked closely with the various Commanders of the USCG Section, Greater Antilles since 1937 as well as with the various OCMI's, COTP's and of late the newly established MSO San Juan. Spurred by his keen sense of public spirit and high patriotic ideals, Capt. Crocco has exercised unselfish leadership in promoting friendly relations, mutual respect and a sense of cooperation between the various Federal and Commonwealth of Puerto Rico government agencies and the international maritime shipping community. He has supported the aims of the Coast Guard, assisting frequently with his time and personal resources to insure that appropriate CG officers were widely introduced to government and maritime industry officials. He has maintained a continuous liaison with the Coast Guard to assist in keeping the Greater Antilles Section Commander well informed regarding maritime industry affairs and problems. He has provided technical assistance to CG ships undergoing shipyard work, made available company equipment for emergencies when asked and has provided helpful information to OCMI and MSO personnel during vessel inspections. His genuine personal friendship has been of enormous help in fostering good community relations and in helping many Coast Guardsmen and their families establish themselves in the local area. As a member of the Navy

League of the United States, Capt. Crocco has been an outspoken advocate of securing our Nation's defense with the maintenance of a strong Navy, Marine Corps, Coast Guard and Merchant Marine as a cornerstone.

"In appreciation of Capt. Crocco's many services and for his continuing loyal friendship, this citation is awarded with the highest esteem and heartiest thanks of the United States Coast Guard."

Waukesha Engine Names Bruce Yeo

Bruce L. Yeo has been appointed advertising and sales promotion manager of Waukesha Engine Division, Dresser Industries, Inc., Waukesha, Wis. 53186.

He will be in charge of trade advertising, public relations, technical communications and exhibits for the division.

Mr. Yeo came to Waukesha

Engine from A.O. Smith Corporation, Milwaukee, Wis., where he served as product publicity manager. He is a graduate of Albright College, Reading, Pa., from which he holds a Bachelor of Arts degree in political science.

Waukesha Engine Division is a manufacturer of heavy duty diesel and gas engines for the petroleum, marine, construction, municipal and power generation markets.

A breakthrough in video processing

With ordinary radar there are six fundamental problems that can hinder the interpretation of a radar picture – **Sea clutter**, which can best be dealt with by manual adjustment of the sea clutter controls; **Rain clutter**, dealt with by manual adjustment of 'rain' and 'sea clutter' and 'gain' controls. (These controls require constant skilled adjustment, sometimes over long periods, and provide at best a compromise solution.) **Radar interference** from other ships and **receiver noise** from own ship also worsen the picture. **Weak echoes** are hard to pick out and **small echoes** even harder to see at long range.

But now Decca CLEARSCAN radar solves these problems with unrivalled picture clarity.

Sea clutter is suppressed by automatic adaptive control of the Sea Clutter Control.

The rain clutter is suppressed by automatic adaptive control of both the rain and sea clutter controls, and gain level.

Radar interference is suppressed by automatic circuits.

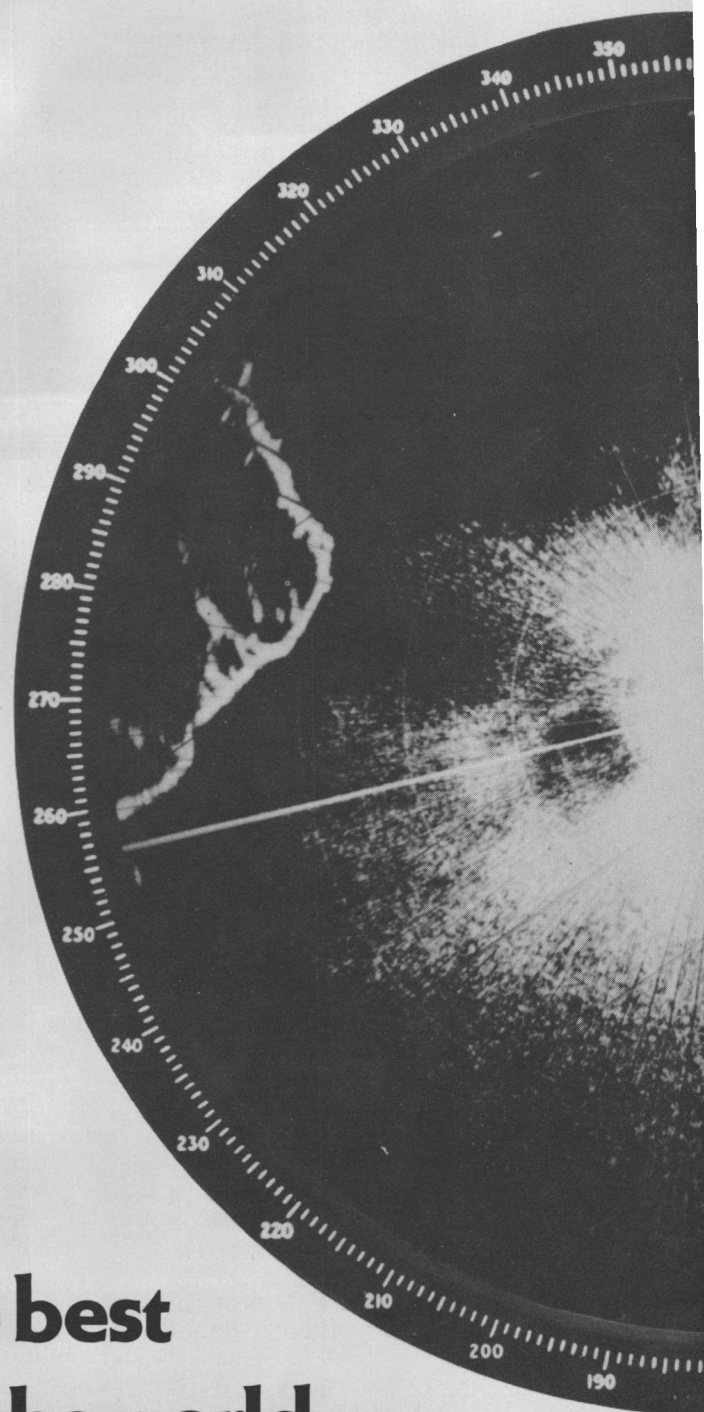
Receiver noise automatically removed.

Weak echoes automatically raised to full brilliance by digital video...

...and echoes 'stretched' automatically on longer ranges.

For the radar efficient ship.

...improving the best marine radar in the world.



MarAd Report Shows Maritime Aids Of Six Major Nations

The Maritime Administration (MarAd) has released a report which examines the financial assistance programs administered by the six major nations to their shipping and shipbuilding industries. The study, which covers the period 1971-75, details the assist-

ance rendered and evaluates their effectiveness.

The nations studied — Japan, the United Kingdom, Norway, Sweden, West Germany, and France—in 1975 occupied the six top positions in the world in terms of gross tons of shipbuilding deliveries, and accounted for 37 percent of the world's fleet tonnage.

The report reveals that during the 1971-75 period, the assistance

given to the shipping industries of the six nations averaged over \$1.1 billion per year. In addition, the shipbuilding industries of these countries received an average of \$475 million per year.

The analyses of the maritime aids included investment financing assistance, credit assistance, tax allowance programs, direct subsidies, cargo preference programs on particular commodities,

full or partial government ownership and other forms of government assistance.

The 491-page report, "The Maritime Aids of the Six Major Maritime Nations," which was prepared under a MarAd contract by Temple, Barker and Sloane, Inc., and Chase Econometrics, Inc., is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161. The order number is PB-273013/AS, and the price is \$12.50.

National Supply Company Promotes Virgil Ellis



Virgil R. Ellis

National Supply Company, major manufacturer of oilfield machinery, has promoted **Virgil R. Ellis** to the newly created position of product manager-production equipment.

In the position, Mr. Ellis is responsible for coordinating the manufacturing and marketing of pumping units, multiplex pumps and related parts. He has his office in Houston at the company's headquarters, 1455 West Loop South, Houston, Texas 77027.

Mr. Ellis joined National Supply in 1956 as a salesman and has held a variety of sales positions, primarily in the Gulf Coast area. He was most recently senior sales representative in Houston for the company's oilfield supply stores.

Mr. Ellis is a graduate of Texas A & I University.

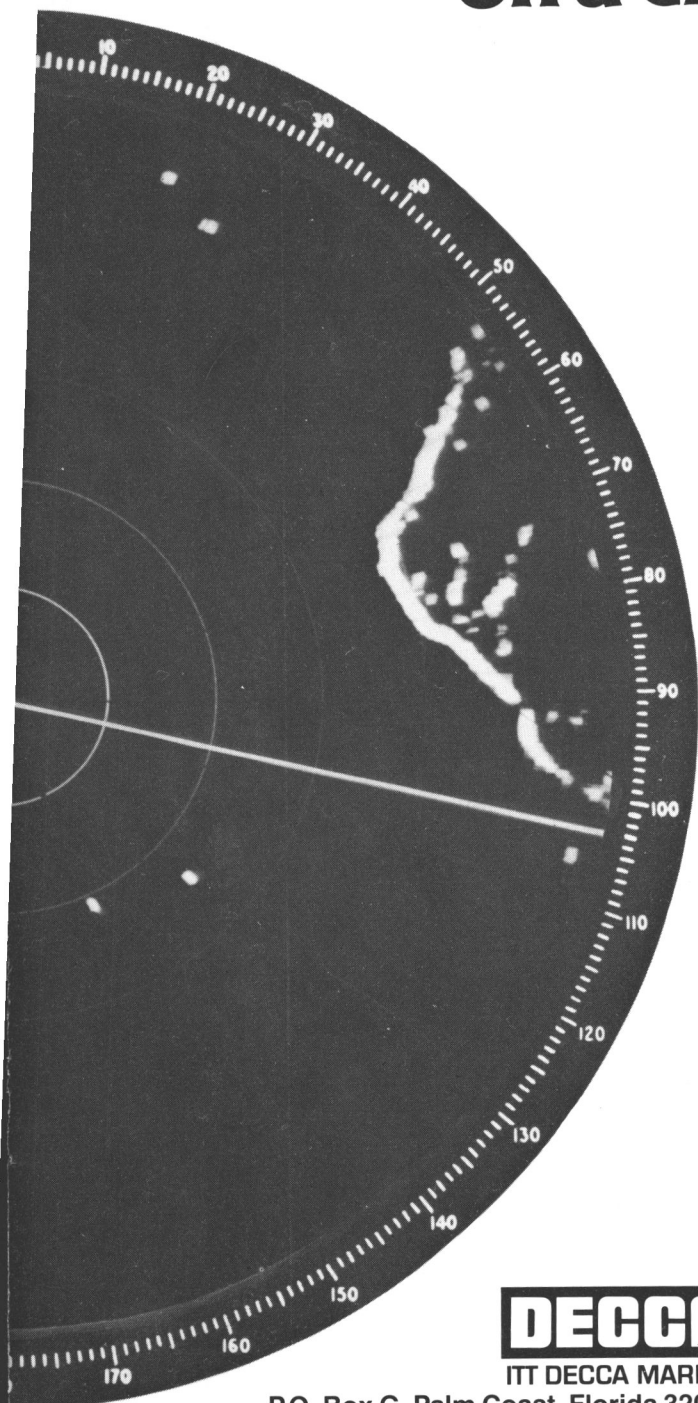
National Supply manufactures the broadest selection of drilling and production machinery in the oilfield equipment industry, and supports its products through 175 sales and service facilities and stores in the U.S. and oil-producing areas worldwide.

Panama Canal Transit And Port Information Offered In New Booklet

Panama Agencies Company has published a new and updated edition of their Panama Canal Information booklet. This 48-page booklet contains much information of value to operators of ships which transit the Panama Canal.

Interested persons involved in the shipping industry who would like to obtain a copy may do so by writing to **D.A. Harper**, Panama Agencies Company, P.O. Box 5097, Cristobal, Canal Zone.

-now gives brighter, clearer echoes on a clutter-free screen.



- Suppresses sea and rain clutter
- Suppresses noise and interference
- Makes echoes brighter -with more contrast
- Makes echoes longer

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Canadian Shipbuilders Technical Section To Meet In Montreal

The Technical Section annual meeting of the Canadian Shipbuilding and Ship Repairing Association will be held on Tuesday, February 7, 1978, in the Grand Salon of the Hotel Meridien, Complexe Desjardins, Montreal, Quebec.

The theme for the meeting will

be "Approaching the New Shipbuilding Era," and the program for the morning and afternoon sessions is as follows:

Morning Session, 9 a.m.

K.C. Lucas, Senior Assistant Deputy Minister, Department of Fisheries and Environment—"Vessel requirements (type and numbers) for fishing and patrol vessels on East and West Coasts over the next 10 years."

John Reid, Marine manager,

H.B. Nickerson & Sons Ltd.—"Vessel requirements, operations, repair and overhaul, new markets—from the customer point of view."

T.A. McLaren, president, Allied Shipbuilders Ltd.—"Shipyard facility planning, modernization, productivity, improvement, training, marketing for new requirements."

John Marsters, Director of Industrial Development, Nova Sco-

tia Department of Fisheries—"Provincial viewpoint on vessel requirements and impact on shipbuilding and ship repair industry."

Murray Osborne, president, Breton Industrial and Marine Ltd.—"Facility planning, modernization, productivity improvement, training, marketing for new requirements."

Afternoon Session, 2 p.m.

Graham Lochhead, Chief, Ships and Components, Department of Industry, Trade and Commerce—"Vessel requirements for transportation of Arctic resources—industrial strategy, government policy environment."

E.J. Jones, vice president, Burrard Dry Dock Co. Ltd.—"Shipyard planning, programming and quality control for the construction of Arctic Class Icebreakers."

A.A. McArthur, president, Saint John Shipbuilding and Dry Dock Company Ltd.—"Shipyard facility planning, programming, quality control and training for the construction of LNG Carriers and Polar Icebreakers."

W.H. White, senior vice president, Davie Shipbuilding Ltd.—"Shipyard facility planning, programming, quality control and training for the construction of LNG Carriers and Polar Icebreakers."

Bengt Johansson, director, Marine Research & Design, Dome Petroleum—"Vessel construction requirements, repair and overhaul, future markets and shipyard requirements from the customer point of view."

The meeting will be followed by the Annual Banquet at 7:30 p.m., to be held in the Grand Salon of the Hotel Meridien. Dress is informal (business suit), and tables seating 10 persons may be reserved in advance if tickets are purchased before February 4, 1978. The cost is \$20 per ticket, payable by check to the Canadian Shipbuilding and Ship Repairing Association, and sent to **Mrs. Joy MacPherson**, Secretary/Treasurer Canadian Shipbuilding and Ship Repairing Association, Suite 701, 100 Sparks Street, Ottawa, Ontario, Canada K1P 5B7.

Apelco Names LaRocca National Sales Manager Marine Electronics

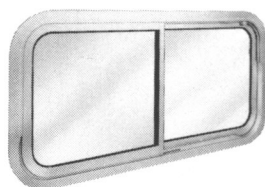
John P. LaRocca has been named national sales manager for the Apelco line of marine electronics for boating. He will be responsible for sales of Apelco depth sounders, marine radio-telephones, navigation aids, and loud hailers.

Mr. LaRocca has served as sales manager for Raytheon Marine Company's New York region since 1976. Prior to that, he was with Bristol-Myers.

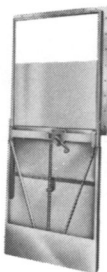
An Army veteran and holder of the Bronze Star, **Mr. LaRocca** is also a captain in the U.S. Army Reserve and a member of the Veterans of Foreign Wars. He attended Union College.

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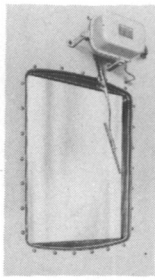
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Sliding Window



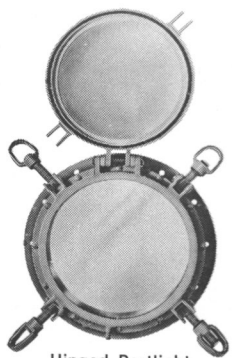
Crank-Operated Window



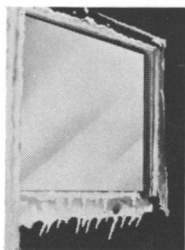
Window Wiper and Fixed Window



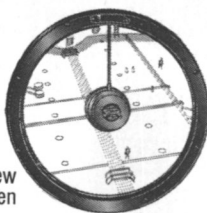
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Hinged Portlight



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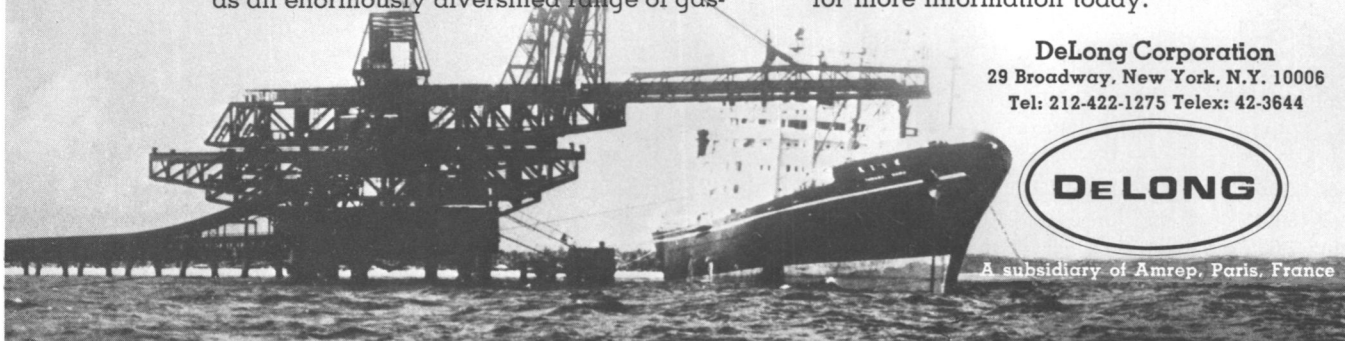
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American Commercial Lines, Inc. Elects Lola Grebe VP



Lola Grebe

The election of **Lola Grebe** as a vice president of American Commercial Lines, Inc., Houston, Texas, was announced by **E.D. Butcher**, company president.

Miss Grebe, with more than 30 years of experience in the treasury and accounting functions of American Commercial Lines, will now have overall responsibility for that phase of the company's operations, according to Mr. **Butcher**.

Miss Grebe's continuous service with American Commercial Lines and its predecessor companies began in 1945, when she joined the accounting department of Butcher-Arthur, Inc., at Houston. She has been responsible for a wide range of accounting functions since that time.

American Commercial Lines, a principal subsidiary of Texas Gas Transmission Corporation, is the parent organization for the various inland waterways and trucking operations of Texas Gas. Based in Owensboro, Ky., Texas Gas also has major interests in gas transmission services and oil and gas exploration and production activities.

Port Of Oakland And Port Of Incheon, Korea Sign Sister Port Pact

Ranking Korean maritime and diplomatic officials visited the Port of Oakland for the formal signing of a Sister Port affiliation between the Port of Oakland, Calif., and the Port of Incheon, Republic of Korea.

Heading the Korean delegation were **Young Woo Chang**, director general, Planning and Management Office, Korea Maritime & Port Administration; **Suk Chon Kang**, deputy director, Incheon District Maritime & Port Authority, and **Hyoung Chun Kang**, director, Ulsan District Maritime & Port Authority. They were accompanied by **Dong Won Shin**, Consul General of Korea in San Francisco, and **Jong Soon Lee**, Maritime Attache, Korean Consulate General, New York.

The Sister Port pact pledges mutual efforts to promote the flow of trade goods between the two

ports, explained **Y. Charles Soda**, president of the Oakland Board of Port Commissioners. It grew out of a visit to Korea last June by a Port of Oakland trade delegation.

In 1976, through the Bay Area—and primarily through the Port of Oakland—the Republic of Korea exported nearly \$200 million worth of trade goods and im-

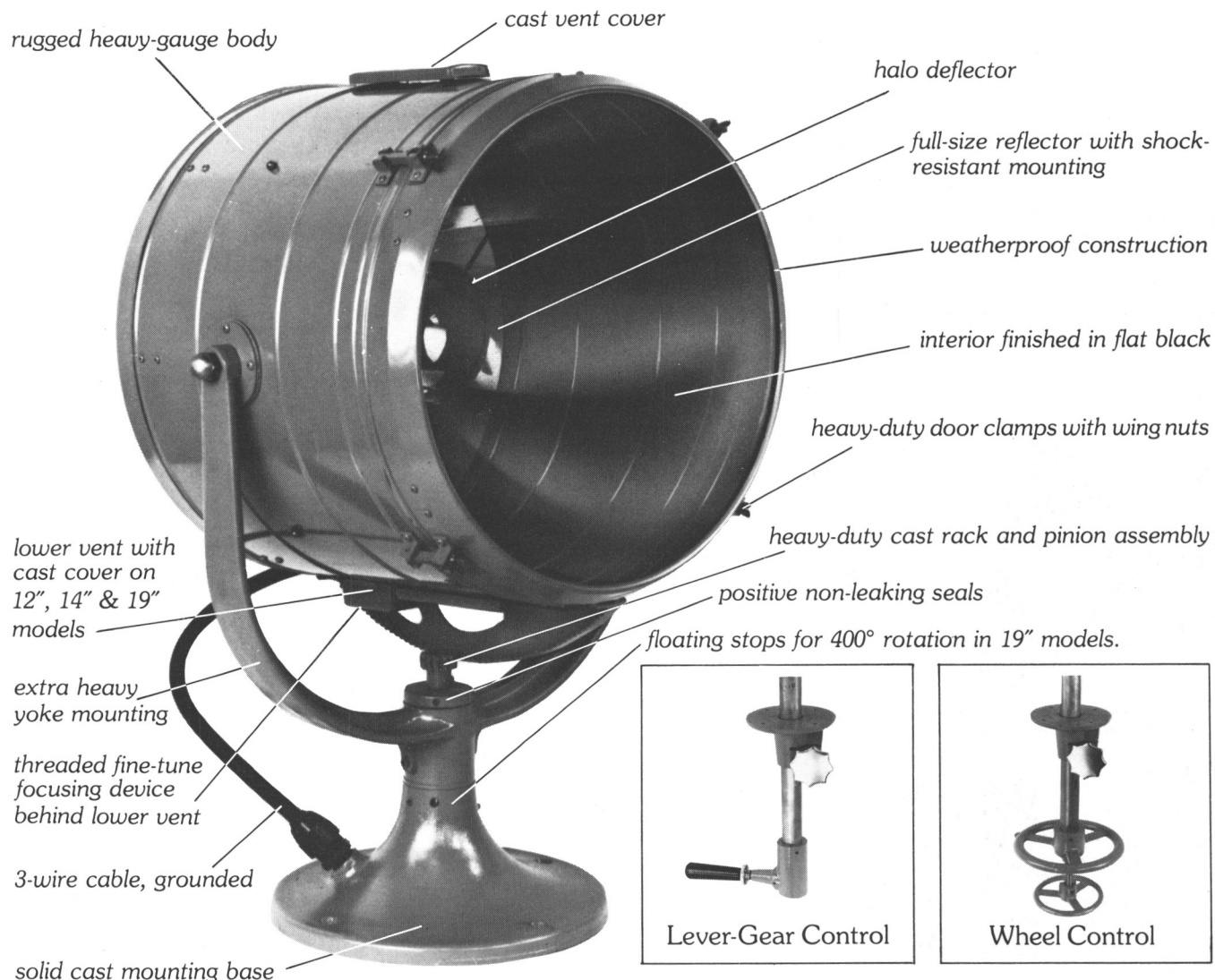
ported U.S. products valued at some \$300 million, noted Consul General **Shin**.

In 1977, that balance sheet should mount to \$700 million, he added—making the Sister Port pact executed between Oakland and Incheon (gateway to the capital city of Seoul) "most timely and significant as a way to strengthen and further friendship

and understanding between our two peoples."

The Korean officials paid a courtesy call on Oakland Mayor **Lionel Wilson**, toured the city, inspected modern container facilities at the Port of Oakland, and were honored at a reception and dinner with steamship line officials, terminal operators, and shippers.

Perko 19" Solar-Ray™ Searchlights set new high performance standards.



A sustained, three year research and development effort to determine the most practical commercial searchlight design features for presentday needs is all summed up in the outstanding new Perko high-powered 19" Solar-Ray™ searchlights. Available in 3 models—deck control, wheel control and lever-gear control—the benefits begin with the most solidly built searchlight available today. Fashioned from marine aluminum alloy and finished in gray enamel, the new 19" Perko Solar-Rays feature a heavy-gauge body reinforced with ribbing, a hefty ribbed cast yoke assembly, a solid 13" diameter cast mounting base, only to mention a few of the super sturdy construction details.

Besides offering all of the exclusive design and performance features of the smaller Perko Solar-Ray searchlights, the new 19" model incorporates interchangeable wheel and lever-gear controls that fit a common above deck assembly. The wheel con-

trol is fitted with extra large wheels for easier operation. The smooth-functioning, lever-gear control has a built-in locking system that holds desired elevation. Perko Solar-Ray high-powered searchlights are also available in 10", 12" and 14" sizes finished in polished brass, exclusive Perko-plate satin commercial chrome, and polished chrome. Deck control, lever control and wheel control models are available. For details of the complete Solar-Ray line, send for the free 1978 Perko Searchlight Catalog—Section E.

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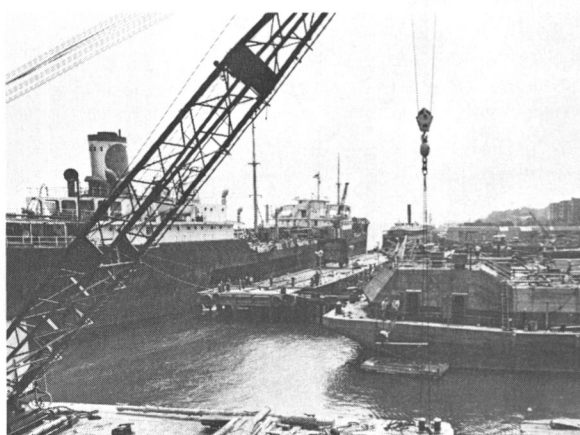
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NASSCO Delivers Third In Series Of Four San Clemente-Class Tankers For OSG Subsidiary



Principals at the naming ceremony for the S/S Overseas New York include, from left to right: **Robert Blackwell**, Assistant Secretary of Commerce for Maritime Affairs; **John McCoy**, representative of American Bureau of Shipping; **Mrs. Robert Blackwell**; **Capt. Richard Brown**, U.S. Coast Guard; **James Parker**, president, Kaiser Industries Corporation; **Mrs. Edward Daley**, matron of honor; **Mrs. David T. McGarry**, sponsor; **David T. McGarry**, vice president, Chase Manhattan Bank; **Ran Hettena**, president, Maritime Overseas Corporation; **Milton Kliger**, senior vice president and treasurer, Maritime Overseas Corp., and **Larry French**, president, National Steel and Shipbuilding Company.

The 90,000-deadweight-ton S/S Overseas New York, the third of four San Clemente-class tankers ordered for subsidiaries of Overseas Shipholding Group, Inc. (OSG), was recently delivered by National Steel and Shipbuilding Company, San Diego, Calif.

The ships were contracted for in 1973 in anticipation of the completion of the Trans-Alaska Pipeline, and are being built without Federal construction differential subsidies.

The Overseas Chicago and the Overseas Ohio are now in service. The fourth and last ship in the group, Overseas Washington, is scheduled for delivery in February 1978.

The NASSCO-designed San Clemente-class tankers incorporate special pollution abatement and related safety features, including double bottoms, inert gas systems, anticollision radar, high-capacity clean ballast systems, and sewage treatment plants. They are 894 feet long, have beams of 105 feet, and depths of 64 feet, and are of the maximum size that can transit the Panama Canal. The latest in automation has been designed in the ship's operational controls.

OSG is the only publicly owned company engaged exclusively in the ocean transportation of bulk commodities in both the world-

wide and U.S. shipping markets. OSG is the largest independent owner of unsubsidized U.S.-flag tankers.

National Steel and Shipbuilding Company is equally owned by Kaiser Industries Corporation and Morrison-Knudsen Company, Inc.



The S/S Overseas New York is shown as she begins builders trials. She is one of four 90,000-dwt San Clemente-class tankers built by NASSCO for subsidiaries of Overseas Shipholding Group, that will be used in the Alaskan oil trade. The latest in pollution abatement and automation has been designed in the new tankers.

Republic Of China Orders Offshore Platforms From National Supply Company

Negotiations between the People's Republic of China and the National Supply Company, division of Armco Steel Corporation, Houston, Texas, have been completed for the sale of two offshore oil production platforms valued at more than \$15 million, it was announced by **Ted Rogers**, National Supply president.

This agreement marks the first major purchase of U.S. petroleum equipment under the PRC's Fifth Five-Year Plan.

Negotiations between PRC and National Supply have been underway for several months.

The contract calls for delivery of two offshore drilling and production platforms designed for drilling depths of up to 20,000 feet. The first rig, scheduled for delivery in

the summer of 1978, will be shipped in modules. A technical team from National Supply will supervise final assembly.

The Chinese will build modules for the second rig, and also will assume the task of assembling equipment into the modules for final mounting.

Additional contracts for parts and supplies are currently under discussion, and Chinese technicians will travel to Houston to observe assembly of the equipment modules for the first rig.

National Supply first became aware of the Chinese interest in the rigs following a company technical presentation made in June 1977, when the Chinese submitted an inquiry on the units.

National Supply is one of the world's largest manufacturers of oilfield drilling and production equipment, with major installations in Texas, California, Pennsylvania and Great Britain.

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Robin Towing To Build Oceangoing Tugs And Aluminum Crewboats

Robin Towing Corporation, 440 Paillet Avenue, Harvey, La., has applied for a Title XI guarantee to aid in financing the construction of two oceangoing tugboats and two aluminum crewboats, and in the refinancing of two oceangoing tugs.

The two oceangoing tugboats to be financed will each have a length of 105 feet, a beam of 32 feet, and a depth of 15 feet 9 inches. Each will be powered by two 1,260-horsepower engines. The application states that they will be capable of handling drilling rigs of sufficient size to work in the deepest waters of the Gulf of Mexico and in the North Sea.

The proposed builder of the

two new tugs is J. Ray McDermott & Co., Inc., Morgan City, La. The two vessels, Tug Robin XIV and Tug Robin XV, will cost approximately \$2.1 million and \$2 million, respectively.

The two aluminum crewboats will each have a length of 100 feet, a beam of 20 feet 11 inches, and a depth of 9 feet 8½ inches. They are principally designed to carry passengers to and from off-

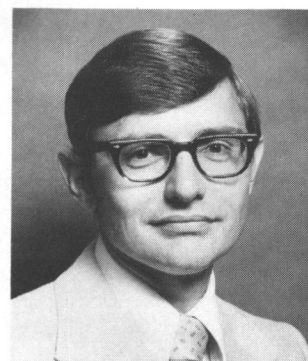
shore drilling structures in the Gulf of Mexico.

Swiftships, Inc., Morgan City, is the proposed builder of the crewboats, which are to be named Lorraine Robin and Alexandra Robin. They will cost approximately \$600,000 each.

The applicants also propose to refinance two existing oceangoing tugs, Robin III and Joel Robin. The Robin III is a seven-year-old vessel rated at 158 gross tons. The Joel Robin is six years old and rated at 197 gross tons.

The applicant places the fair and reasonable value of the existing tugs at approximately \$1.5 million and \$1 million, respectively.

Avondale Shipyards Appoint James Temenak

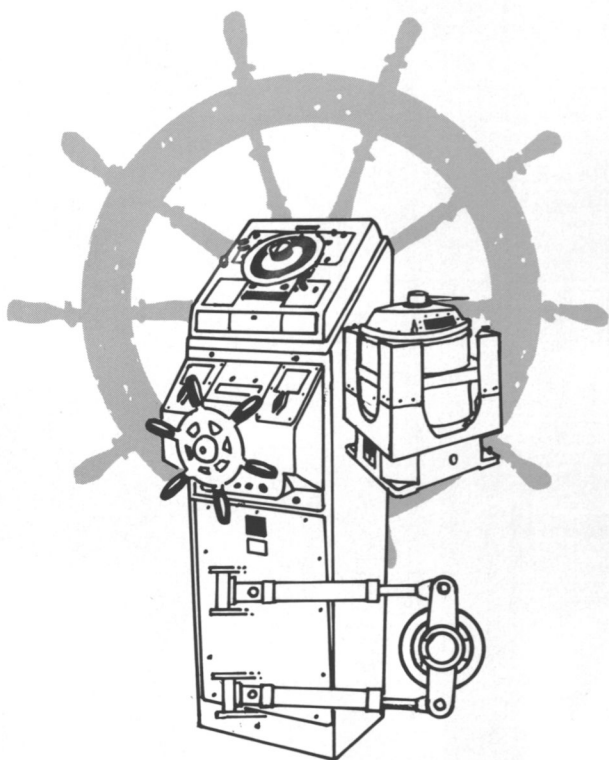


James M. Temenak

Avondale Shipyards, Inc. of New Orleans, La., announced the appointment of **James M. Temenak** as marketing manager for new construction activities. The appointment supports the commitment that Avondale and their parent company, Ogden Corporation, have made to remain a leader in ship construction activities. In order to more effectively participate in the workboat and barge construction market, the Avondale Westwego facility, as of January 1, 1978, will be organized as a separate division, reporting directly to **Al Bossier**, the new Avondale president. This facility will be dedicated to barge and workboat vessel construction on a permanent basis.

Mr. Temenak joined Avondale after 10 years' experience in marine technical marketing with General Electric. His most recent position was serving the New Orleans and western Gulf Coast area selling propulsion and electrical equipment to the yards, owners/operators, and naval architects. He received his BSEE degree from Valparaiso University, Valparaiso, Ind. in January 1968, and will soon conclude his MBA degree at the University of New Orleans.

Way space at the main yard and Westwego is available, and **Mr. Temenak** can be contacted at the following location for information on Avondale's many available designs: Avondale Shipyards, Inc., P.O. Box 50280, New Orleans, La. 70150.



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We were proud to introduce *Caprinus*[®] T Oil a few years ago and delighted with its performance on the waterways. *Caprinus* T is a hard act to follow. But *Caprinus*^{*} R Oil 40 is a significant step ahead. Towboat operators agree and are now using this premium lubricant in over 40 EMD-powered motor vessels.

Caprinus R Oil 40 is higher in initial alkalinity than *Caprinus*^{*} T Oil (10.2 TBN-E compared to 7.5) and *retains* effective alkalinity in extended high-stress service.

That means *Caprinus* R Oil can continue to neutralize combustion acids and guard against corrosive wear of rings and liners

over long periods. It helps prevent corrosive wear caused by high-sulfur fuels.

Maximum filter service life

The dispersant additive system in *Caprinus* R Oil helps keep insolubles in suspension to promote engine cleanliness. Results: In some installations it has been possible to extend filter service life *to the limit* of filter element durability—an important maintenance saving.

And what engineer wouldn't like the long oil service life of *Caprinus* R Oil! It offers high oxidation stability, high detergency to meet the needs of the latest-design diesels with up to 250 hp per cylinder. Fights thickening

and deterioration over the long haul, too.

Caprinus R Oil has all the properties to do the job and keep at it!

Workhorse *Tornus*[®] Oil will still be available

For many years, Shell's *Tornus*^{*} Oil has worked its way in and across ports, harbors and the inland waterways of the U.S., delivering good performance in high-horsepower diesels. Its alkalinity level is considerably lower than that of *Caprinus* R Oil (TBN 5.7 compared to 10.2). But it does provide good wear protection, helps keep engines clean and gives good oil and oil filter life in moderate service.

Shell will continue to offer *Tornus* Oil but encourages a change to *Caprinus* R Oil 40 to meet the demanding requirements of modern engines and high-sulfur fuels.

Send for full details — we'll be glad to send you our technical bulletin on *Caprinus* R Oil — its properties and applications in marine power plants. Just write: Shell Oil Company, Manager, Commercial Communications, One Shell Plaza, Houston, Texas 77002.



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*This is a trademark for the product indicated above and is used as such in this writing.

National Cargo Bureau Opens Branch Office In Corpus Christi, Texas

National Cargo Bureau, Inc. has announced the opening of its branch office in Corpus Christi, Texas.

Capt. Billy Anderson has been appointed senior surveyor at Corpus Christi. He attended the U.S. Merchant Marine Academy at

Kings Point, N.Y., in 1941 and 1942, and has been employed by the Bureau since 1966 on the staff at Houston, Texas.

The mailing address and telephone number will be: P.O. Box 9022, Corpus Christi, Texas 78408 —(512) 882-4772. The office is located at 606 Wilson Building.

National Cargo Bureau is a nationwide nonprofit membership organization dedicated to the safe

stowage, securing and unloading of cargo on all vessels for the purpose of claims prevention. It formulates recommendations to Government on safe stowage of dangerous goods and other cargoes, and offers low-cost cargo inspection service (breakbulk and containers) and inspection of cargo-handling gear. The Bureau also performs nautical inspections for Liberian and Panamanian-flag vessels.

Swedish Consul General Launches Stal-Laval's Ocean-To-Ocean Service

In a ribbon-cutting ceremony held in Long Beach, Calif., on December 2, Mrs. Cecelia Nettelbrandt, Swedish Consul General for the Western U.S., and John A. Albino, vice president of Stal-Laval, Inc., officially opened Stal-Laval's newest facility.



Shown at ribbon-cutting ceremony, left to right: Bo Kordel, Pacific Division district manager; Mrs. Cecelia Nettelbrandt, Swedish Consul General for Western U.S., and John Albino, vice president.

The Pacific Division is the latest of four Stal-Laval operations in the U.S. linking the Atlantic, Gulf Coast, and Pacific ports with a single service responsibility. Other offices and service shops are located in Elmsford, N.Y. (headquarters), and Houma, La., with a district office in Houston, Texas.

The newest facility was developed to service the marine industry in turbines, hydraulic deck cranes, oil separators, and refrigeration equipment. A service shop is operational, and an inventory of spare parts is maintained.

Stal-Laval, Inc. is the U.S. subsidiary of Stal-Laval Turbin AB, Finspong, Sweden, one of the world's leading manufacturers of marine steam turbines. It is also the U.S. service representative for Hagglund Cranes, Stal Refrigeration, and Alfa-Laval Separators.

Ask Title XI To Build Passenger-Carrying Self-Propelled Barge

Mare Island Ferry, Georgia Street Wharf, Vallejo, Calif., has applied for a Title XI guarantee to aid in financing the construction of a self-propelled, passenger-carrying barge.

The applicant plans to use the vessel to ferry civilian and military personnel between Mare Island Naval Shipyard and Vallejo. It will replace the three existing vessels now used by Mare Island Ferry in this service.

The cost of the passenger-carrying barge is estimated to be approximately \$425,000. A contract for construction of the vessel has not yet been awarded.

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A. DUBAI, UAE: Concrete caissons weighing 4,000 tons launched on Syncrolift.® Assembly line construction in transfer area.

B. LAS PALMAS, CANARY ISLANDS: 27,400 DWT vessel, Cobetas, 183 m. long being transferred to parking area from Syncrolift.®

C. PUERTO CABELLO, VENEZUELA: 30,500 DWT vessel constructed in two sections on land. Each is launched separately on Syncrolift.® and the two sections are welded together in the water.

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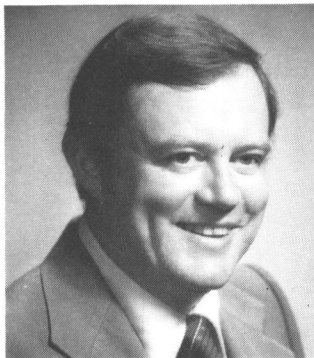
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Wheeler Shipbuilding Corporation Reestablished

Wesley D. Wheeler, president of Wesley D. Wheeler Associates, Ltd., has reestablished Wheeler Shipbuilding Corporation, a company headed by his late father, which produced numerous vessels during World War II for the United States Army and Navy, leading to a peak production staff of up to 6,000 during the height of the hostilities. The shipbuilding headquarters are located at 104 East 40th Street, New York, N.Y. 10016.



Wesley D. Wheeler

The corporation is presently assisting owners in the construction of new tonnage worldwide and is presently contracted for the plan approval and coordination of four 909-TEU, 19-knot containerships for worldwide trading. These vessels are being built by Namura Shipbuilding Co., Ltd., Japan, in their new Imari facility for S.S.I. Navigation of Liberia, Inc.

This new Imari plant is well equipped to meet the very rigorous delivery schedules commencing July 1978. The Wheeler organization is expending every effort to insure the coordination of the rigid requirements of the owner with the yard's production.

U.S. Lines Names Peter Higgins To Post In Southeast Asia

Peter Higgins has been appointed sales manager for Southeast Asia by United States Lines, Inc., with his office now located in Hong Kong. The announcement was made by Frank D. Troxel, vice president of the company, who stated that Mr. Higgins will be responsible for all United States Lines' sales activities in Southeast Asia.

United States Lines currently provides weekly service in the area for Hong Kong, Taiwan, Manila, Thailand, Malaysia and Indonesia.

Prior to his new assignment, Mr. Higgins was Owners Representative for the Lines in Taiwan.

United States Lines operates a fleet of 39 modern vessels, including 17 high-speed, high-capacity containerships in its 15,000-mile Tri-Continent Service between Europe, the East and West Coasts of the United States, Bermuda, Panama, Costa Rica, Hawaii, Guam, and Far East and Southeast Asian ports.

Hubbard And Roberts Named APL Directors

William B. Hubbard, senior vice president-operations of American President Lines, and John C. Roberts, vice president-corporate development of Natomas Company, have been elected directors of American President Lines.

Mr. Hubbard, who has more than 22 years of experience in

steamship and intermodal operations and sales, joined APL in August to head up the company's marine and terminal operations, and equipment maintenance. He is a graduate of the U.S. Merchant Marine Academy with a B.S. degree in marine transportation.

Mr. Roberts, who joined Natomas in 1974 after holding corporate planning positions with Del Rey Capital Corporation and Occidental Petroleum Corpora-

tion, both of Los Angeles, also presently serves as chief operating officer of Thermal Power Company, Natomas's 98 percent owned geothermal steam exploration and development subsidiary. He holds an MBS degree from the Harvard Graduate School of Business Administration and a B.S. degree from the University of Nevada.

American President Lines is a 54-percent owned subsidiary of Natomas Company.

NEW!... Automatic Omega

- Unattended Operation
- Latitude/Longitude Readout
- Great Circle Calculations
- Course & Speed of Advance
- 1 Amp at 12 Volts



Satellite Navigator

- Compact
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- Set & Drift Calculations
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Omega Navigator II

- Rugged & Reliable
- All LOP's Displayed
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Tracor Instruments

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Why every in the world And why

The self-propelled aerial work platform is almost as indispensable as the wrench today for large aircraft maintenance. And Manlift is the one name you see more than any other in this gruelling, round-the-clock duty.

The reasons are clear — and important — to anyone who has maintenance, construction, or installation work at heights of 8 ft. and above.



More Manlift models to meet any need

You have more types and sizes of Manlift aerial work platforms to select from: 18 standard models, ranging from the compact mini-scissors, with a 1,250 lb. lift capacity, to large scissors models with capacities up to 4,000 lbs., to the biggest group of boom models in the industry, and the extendable zoom units that can reach up to 66 ft.

And of course, every Manlift model is a manhour saver with a thousand uses. Construction, maintenance, welding, repair and inspection work all go faster, safer, more efficiently. Manlifts put men and equipment right up where the work is, safely and quickly, moving from place to place, maneuvering, positioning crews up and over obstacles. They all but eliminate the need for scaffolds, ladders and costly specialized work stands.

The operator can raise, lower, drive, and steer the Manlift from the work platform with the simplest controls in the industry.

Manlift built to last

The work records of Manlift units have made them favorites with airline ground service superintendents, as well as with maintenance people in scores of other industries. Carefully engineered and rugged, Manlifts take the toughest and most continuous duty with a minimum of maintenance and downtime.

Manlifts are powered by durable gasoline, L.P. gas, electric or diesel engines; they have automatic hydraulic drum brakes, three speed or fully proportional drives, fail-safe hydraulic controls, and dozens of other features that make them true work-horses.

Engineered for safety, performance

Safety, versatility, and maneuverability are engineered into every Manlift unit. They're stable in every position. In fact, Manlift units not only satisfy OSHA requirements for safety of this type equipment, they meet or exceed other U.S., Canadian and European standards.

Unlike other makes, Manlift boom units will carry their rated load capacities in all boom positions, and their proportional drives give you a smoother operation.

Maneuverable and long-reaching, the Manlifts all retract to the most compact profiles for storage.

Backed by Chamberlain Manufacturing Corporation

Quality construction and sophisticated engineering like this takes a lot of experience and production capability,

major airline uses Manlift.[®] you should.

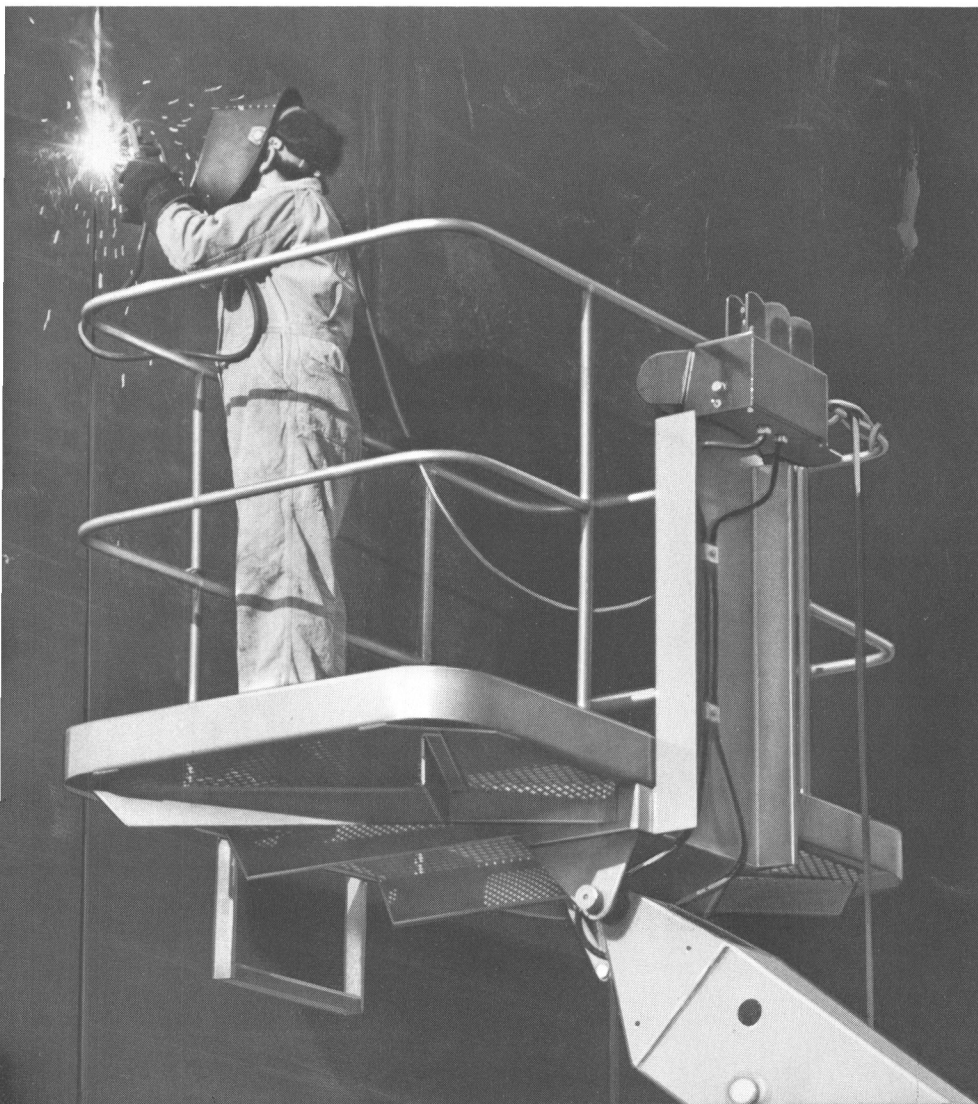
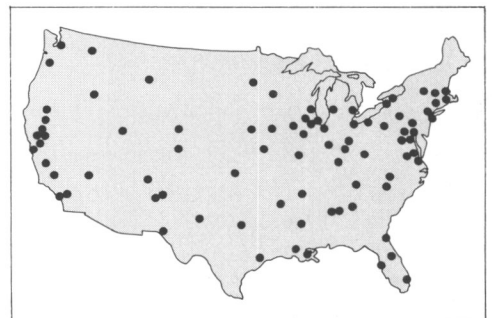
and that's another factor that separates Manlift units from the crowd. They are made by Chamberlain Manufacturing Corporation, one of the leading equipment producers in the Industry. Manlift design and engineering is backed by Chamberlain's Research and Development Division.

Nationwide, worldwide — service

Manlift service is far-reaching. Dealers, parts, warehouses, and factory-trained service people blanket this

country and the major nations of the world for the best and most readily available service.

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leader in overhead efficiency

Get details on Manlift models, and arrange for a demonstration. Send in this coupon. 107

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845 Larch Avenue, Elmhurst, Illinois 60126 USA,
Phone: 312/279/3600 Telex: 72-1476 CHAMBHQTS ELMS

- ☐ Please send me details on Manlift line of self-propelled aerial work platforms.
☐ Please have a representative call me to arrange a demonstration.

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Title _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone No. _____

TURBO GENERATOR SETS

G.E. 1500 KW A.C. TURBO GENERATORS

- 1 1500 KW — 450/3/1200 RPM — 0.8 P.F. — 2450 amps — 525 PSI — 850° TT — 8145 RPM — 11-stage geared 8145/1200 — type FN4 — 3 1/2" steam inlet. Unit will deliver full power at 440 lbs & 760° TT. OAL 16' 3-3/8" — OAW 6'6" — OAH 7'5 1/4" — wt. 36000 lbs. Almost equal to new. Very little use. With ABS or Lloyds.

G.E. 600 KW GEARED TURBO GENERATORS

- 2 450/3/60/1200 RPM — 961 amps — type ATI — 0.8 PF. TURBINE: FSN-FN-20 6-stage — 525 lbs/825°F — superheat 355°/371°F. GEAR: 10033/1200 — RPM 10033 — total — 6390 lbs. steam/hr. steam flow.

G.E. 400 KW TURBO GENERATORS

- 3 450/3/60/1200 — 0.8 PF — 641 amps. TURBINE: 6-stage — 10059 RPM — 525 lbs/825° TT — type GE 618N. Steam rate 5100 lbs/hr. — OAL 10' 10 1/2" — OAW 4' 10 1/2" — OAH 5' 5 1/4" — wt. 14,855 lbs.

400 KW WESTINGHOUSE TURBO GENERATOR SETS FOR BETH-SPARROWS POINT HULLS 4467 TO 5400; QUINCY HULLS 1600 SERIES

- 4 400 KW (500 KVA) — 0.8 PF — 1200 RPM — 450/3/60. TURBINE: 585 lbs — 840° TT — 28 1/2" vacuum — 9018 RPM — serial 10A4462-3 & 10A4462-4. GEAR: 9018/1200 RPM. A.C. GENERATOR: 500 KVA — 400 KW — 450 volts — 641 amps — 0.8 PF — 3-phase 60-cycle — 1200 RPM — CR 40° — excitation amps 41 — excitation voltage 120. Instruction book 5442. Switchgear available.

UNUSED WESTINGHOUSE 60 KW 120 VDC M-20-EH

- 5 120 VDC — 1800 RPM. TURBINE: M-20-EH — 20 lbs dry & saturated — 25" vacuum. 7283 RPM. GEAR: 7283/1800. GENERATOR: 60 KW — 120 VDC — 500 amps — SK — stab. shunt wound.

UNUSED 500 KW DELAVAL-WESTINGHOUSE GEARED TURBO GENERATOR

- 6 GENERATOR: Westinghouse 500 KW — 120/240 volts DC — 2080 amps — 1200 RPM — stab. shunt. TURBINE: DeLaval — 730 HP — 440 PSI working pressure condensing. Temperature 740° — 9977 RPM. HELICAL GEAR: 9977/1200 RPM. Serial # of turbine 245204 — weight 22,000 lbs.

TURBINES & ROTORS

BETH-SPARROWS POINT, QUINCY HULLS

- 7 1 HP Turbine or rotor — Bethlehem
1 400 KW Stator only — Westinghouse
1 HP turbine casing only — Bethlehem
1 Complete Westinghouse 400 KW turbo generator set
1 Forced draft motor fan
1 Anchor windlass — 2 11/16"
Steering gear motors — 15 HP
Forced draft fan impeller

WESTINGHOUSE C-25 CARGO PUMP TURBINE ROTOR VICTORY-AP2 MAIN PROPULSION

- 8 Westinghouse AP2 19-stage HP rotor for 6000 HP Victory — serial #4A-2079 — equal to new. Unused surplus AP2 — Victory Ship complete HP & LP turbines
Allis-Chalmers HP & LP
Westinghouse LP AP2 with throttle valve
G.E. HP & LP with throttle valve

VICTORY-AP3 MAIN PROPULSION NEW 8500 HP G.E. TURBINES

- 9 Large Victory or C-3 HP #72271 LP #72272
10 Boxes spare parts, tools & fittings. With maneuvering valves.

8500 HP G.E. — C-3 OR VICTORY

- 10 H.P. — 8-stage — 6159 RPM — serial 62043
L.P. — 8-stage — 3509 RPM — serial 62042
G.E.I. 16263

VICTORY SHIP AUXILIARY TURBO GENERATOR SET ROTORS

- 11 300 KW 5965 RPM JOSHUA HENDY
Turbine — 3H-69 Gear — 52269
Turbine — 3H-52 Gear — 52252
Turbine — 3H-62 Gear — 52262
ALSO WESTINGHOUSE 2A & 5A SERIES

- FOR T-2 VESSELS -

- 12 TURBINE: DORV-325M — 525 KW — 5645 RPM — 435 PSIG — 28" exhaust. REDUCTION GEAR: S-162 — form D — 5641/1200. A.C. GENERATOR: 500 KVA — 400 KW — 440/3/60 — 1200 RPM — 0.8 PF. D.C. EXCITATION GENERATORS: 75/55 KW — form AL — 110 volts DC. With new type amplydines.

538 KW WESTINGHOUSE T-2 AUXILIARY GENERATOR — COMPLETE

- 13 TURBINE: 538 KW @ 5010 RPM — 438 PSIG — 750° TT — 28 1/2" vacuum. GEAR: 5010/1200 RPM. A.C. GENERATOR: 400 KW — 450/3/60/1200 — 0.8 PF. DC EXCITER: 32.5 KW — 120 volts (variable voltage) — shunt — 4-pole — DC excitation 5 KW. ALWAYS WELL MAINTAINED BY MAJOR OIL CO.

T-2 UNUSED G.E. MAIN PROPULSION STEAM TURBINE WITH ROTOR

- 14 10-Stage — 435# — 720° TT — turbine complete with rotor — serial #109166 — 4925/5400 KW — 3600/3720 RPM — 28.5" vacuum.

WESTINGHOUSE MAIN PROPULSION STEAM TURBINE WITH ROTOR

- 15 EX-CHEVRON VESSEL "MACGAREGILL" Shrouded — like-new condition. Will sell rotor separately. WESTINGHOUSE MAIN PROPULSION TURBINE Ex "Pecos" — unshrouded — serial 2A-7733-2 type A

UNUSED G.E. MAIN PROPULSION STATOR

- 16 Type ATB-2 — serial #6978272. 2300/2370 volts — 60/62 cycles — 3-phase — 3600/3720 RPM — armature amps 1237/1315 — 4925/5400 KW — 1.0 PF. Westinghouse stator — from Ex "Pecos"

WESTINGHOUSE 538 KW AUX. GENERATOR EXCITER ARMATURE

- 17 We have both types:
110 KW — 32 KW — 5.5 KW
110 KW — 28 KW — 5.5 KW

538 KW WESTINGHOUSE AUXILIARY TURBINE ROTORS

WESTINGHOUSE T-2 TANKER MAIN GENERATOR COOLERS & MAIN MOTOR COOLERS

- 19 Reconditioned — with A.B.S. Units all ready to ship. Also G.E. Main Generator Coolers

G.E. 525 KW AUX. GENERATOR EXCITER ARMATURE

- 20 75-55 KW

NEW STYLE AMPLYDINE

- 21 5LY148A2 — type A.M. — frame 605

AUXILIARY GENERATOR ROTORS

- 22 G.E. aux. generator rotors — DORV-325M — for 525 KW turbo generator sets

T-2 MAIN CARGO PUMPS

- 23 Ingersoll-Rand 6GT — 2-stage — bronze — 2000 GPM — 280' head

LATEST DESIGN 5-SPEED FORCED DRAFT FAN MOTORS

- 24 G.E. Model 5M505FE-1 — frame 5055 — type M — 440/3/60 — serial S.E.6731807. Controller available. (Complete with fan impeller)

T-2 SHIPS SERVICE AIR COMPRESSORS

- 25 Worthington — 5 1/2 x 3 1/2 x 3 1/2 — VA2 — 20 C.F.M. — 100 lbs. — 5 H.P. Motors — 440/3/60 — 1750 RPM.

WESTINGHOUSE DRY TYPE T-2 CARGO PUMP TRANSFORMERS

- 26 200 KVA — single phase — 60 cycle 2300/450 volts — weight 3720 lbs. each. 4 available.

G.E. PYRONOL OIL COOLED TRANSFORMERS

- 27 200 KVA — single phase — 60 cycles — 2300/450 volts — 3 available.

MISCELLANEOUS DRY-TYPE TRANSFORMERS

- 28 Lighting Transformers — 15 KW — 450/120 volts
Galley Power Transformers — 15 KW — 450/220 volts

INGERSOLL-RAND 14,000 GPM MAIN CIRCULATOR

- 29 14,000 GPM @ 25' head — model 24UCM — bronze — with 125 HP 440/3/60 580 RPM motor. 26" suction — 24" discharge. Can furnish with Westinghouse type CS frame B-876C or GE type KF vertical motors.

PUMPS

BRONZE T-2 TANKER STRIPPING PUMPS

- 30 14x14x12 — 700 GPM at 100 lbs. Same pump available in steel for fuel oil transfer, etc.

WESTINGHOUSE 200 H.P. CARGO PUMP MOTORS

- 31 440/3/60 1750 RPM — 40°

MISSION TANKER T2SEA2 CIRCULATING PUMP MOTOR

- 32 150 HP — 440/3/60/590 RPM. Frame 6335 — type KF — 204 amps

T-2 MAIN ROTOR

- 33 LARGE G.E. MAIN PROPULSION SCHENECTADY TURBINE ROTOR

Turbine serial 77418 — reconditioned with certificate. Just out of Beth shop 1970

T-2 MISCELLANEOUS, PUMPS ETC.

- 34 10 HP Labour Self-Priming Bilge Pumps • Rudder 13 1/2" Rudder Stocks • Main Injection 3-Way Valve Main Condensate Pumps • Fuel Oil Service Pumps Magnablast Breaker • 1 Set New Bull Gear & Pinion for G.E. 525 K.W. Diesel Gen Model S-162 • 32", 24", 15" Rubber Expansion Joints • Mission Tanker Steering Gear Pumps

TURBINE FIRE PUMPS — BRONZE

- 35 Worthington turbine — 440# — 448° — 3500 RPM — 75 HP — 15# back pressure — 750 GPM @ 125 lbs — 6" suction — 4" discharge.

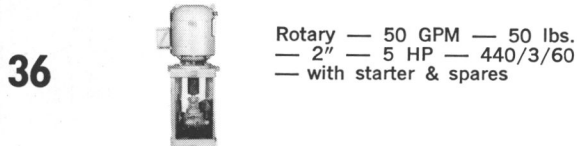
KNOWN 'ROUND THE WORLD

THE **BOST**

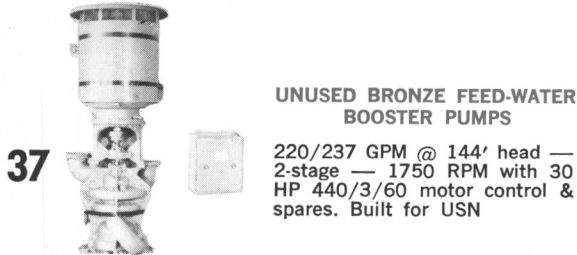
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NEW BLACKMER FUEL OIL TRANSFER PUMP

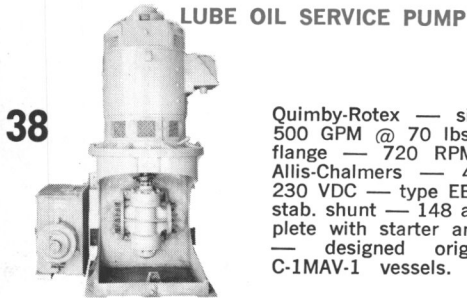


Rotary — 50 GPM — 50 lbs.
— 2" — 5 HP — 440/3/60
— with starter & spares



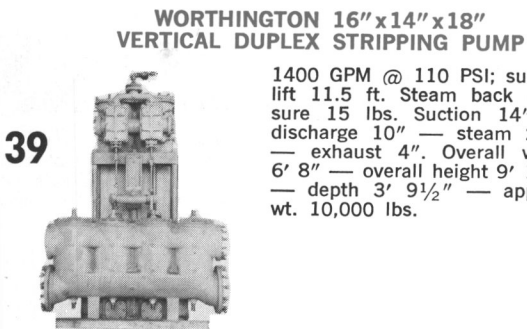
UNUSED BRONZE FEED-WATER BOOSTER PUMPS

220/237 GPM @ 144' head —
2-stage — 1750 RPM with 30
HP 440/3/60 motor control &
spares. Built for USN



LUBE OIL SERVICE PUMP

Quimby-Rotex — size 6D —
500 GPM @ 70 lbs — 6"x6"
flange — 720 RPM. MOTOR:
Allis-Chalmers — 40 HP —
230 VDC — type EBV-147S —
stab. shunt — 148 amps. Com-
plete with starter and rheostat
— designed originally for
C-1MAV-1 vessels.



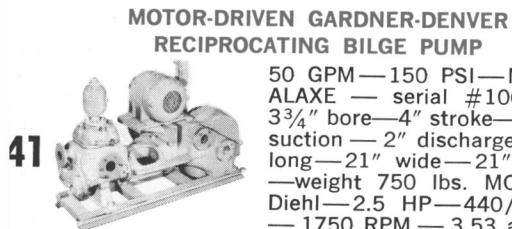
WORTHINGTON 16"x14"x18" VERTICAL DUPLEX STRIPPING PUMP

1400 GPM @ 110 PSI; suction
lift 11.5 ft. Steam back pres-
sure 15 lbs. Suction 14" —
discharge 10" — steam 2 1/2"
— exhaust 4". Overall width
6' 8" — overall height 9' 1 1/2"
— depth 3' 9 1/2" — approx.
wt. 10,000 lbs.



NEW WORTHINGTON VERTICAL SUBMERSIBLE BILGE PUMP

For emergency use on passen-
ger ships, etc. PUMP: JAS —
264 GPM — 171' head — two
6" inlets — one 5" outlet.
MOTOR: 40 HP — 230 VDC —
149 amps.



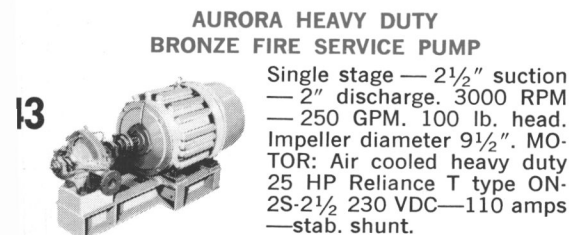
MOTOR-DRIVEN GARDNER-DENVER RECIPROCATING BILGE PUMP

50 GPM — 150 PSI — Model
ALAXE — serial #106335.
3 3/4" bore — 4" stroke — 2 1/2"
suction — 2" discharge. 51"
long — 21" wide — 21" high
— weight 750 lbs. MOTOR:
Diehl — 2.5 HP — 440/3/60
— 1750 RPM — 3.53 amps.



GOULD FIRE AND BILGE PUMP

Ex-LST — horizontal centrif-
ugal — bronze — 4" suction —
3" discharge — 250 GPM @
100 PSI — 2200 RPM. MO-
TOR: 30 HP — 230 VDC
with magnetic starter.



AURORA HEAVY DUTY BRONZE FIRE SERVICE PUMP

Single stage — 2 1/2" suction
— 2" discharge. 3000 RPM
— 250 GPM. 100 lb. head.
Impeller diameter 9 1/2". MO-
TOR: Air cooled heavy duty
25 HP Reliance T type ON-
2S-2 1/2 230 VDC — 110 amps
— stab. shunt.

DIESEL GENERATOR SETS

- 44 **410 KW ENTERPRISE DIESEL
GENERATOR SET**
Enterprise DSG-6 6-cylinder diesel engine driving
Westinghouse generator. 250 volts DC — 1640
amps — 650 RPM — shunt wound.

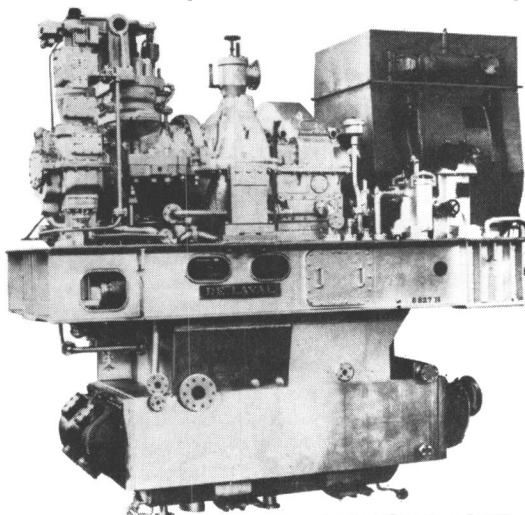
- 45 **AUTOMATIC TENSIONING 12X14 STEAM WINCH**
American Engineering. Drum
diameter 24". Will stow 1500
ft of 1 1/2" in 8 layers. Ca-
pacity 1st layer: 20,000 lbs/
100 FPM — 16,000 lbs/50
FPM. Drum width 2' 6 3/4".
Steam inlet 3" — exhaust 4".
8' 4 1/2" wide over cylinders.
Base 6' x 6' 3 1/2".

- 46 **16"
BRASS
PORTLIGHTS**
15" and 16" brass portlights.
16" portlights are 3-dog type.

MISCELLANEOUS

- 47 **IF YOU'RE GOING TO JUMBO-IZE
YOU CAN ECONOMIZE WITH THESE
ALLIS-CHALMERS — DELAVAL
1000 KW GEARED MARINE
TURBO-GENERATORS**

If you are contemplating the new construction of
TANKERS, ORE CARRIERS, CONTAINER VESSELS, ETC.



**YOU CAN SAVE
THOUSANDS
OF DOLLARS**

with these modern, practically new
units — built to highest Navy stand-
ards. Send for our free descriptive
brochure. You'll be glad you did...
and money ahead!

IMPORTANT INFORMATION

DELAVAL TURBINE: 1442 HP — 10019 RPM — Class GJ-N — 9-stage — 10,000 RPM — 1050
PSI — 950°TT — condensing steam rate 10.30 lbs. Typical serial number 652468. DELAVAL
DOUBLE HELICAL GEAR: 10000/1200 RPM — Allis-Chalmers — 1000 KW — 450 volts — 3-phase
— 60 cycle — 1200 RPM — 0.8 PF — static excitation — totally enclosed air-to-water cooling — tem-
perature rise: Stator 130°C — Rotor 110°C — class H insulation — typical serial number 160615
— type M.A.K.G. Complete with 525 sq.ft. condenser — 190 lbs/hr air ejector — oil coolers —
strainer — piping & valves — generator switchgear — static excitation control — voltage regula-
tor. Total weight of unit 40,300 lbs. OAL 12' 9" — OAW 6'. Turbo-generator height 5' 8" —
total height of turbo-generator & condenser 12' 8". UNITS IN EQUAL-TO-NEW CONDITION.
Originally designed for DLG Guided Missile Frigate Program. Installed only about 2 years,
then removed and carefully re-boxed by U.S.N. at Bath Iron Works 1964-65. Navy in-
stalled larger units due to increased load requirements.

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WORLD DREDGING & MARINE CONSTRUCTION • ETC.**

MARITIME REPORTER/Engineering News

TOTAL WORLD WIDE BUYING POWER

(Non-buyers removed)

**BUYING
POWER**

SHIPBUILDING, BOATBUILDING, AND REPAIR COMPANIES:

(Commercial, U.S. Navy and U.S. Coast Guard):
Companies, directors, owners, presidents,
vice presidents, secretaries, treasurers,
superintendents, managers and purchasing agents
Naval architects, engineers and
chief draftsmen

5,896

VESSEL OPERATING COMPANIES, OCEAN, INLAND, HARBORS, OFFSHORE OIL DRILLING, PORT AUTHORITIES:

(Owners, Agencies and brokers)
Companies, directors, owners, agents,
presidents, vice-presidents, managers,
secretaries and treasurers
Port engineers, superintendents, purchasing
agents, port captains, port stewards,
naval architects and engineers shoreside

9,282

PROFESSIONAL MEN:

Naval architects, engineers and
consultants shoreside

2,312

WORLD WIDE BUYING POWER TOTAL

17,490

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TOTAL CIRCULATION OVER 98% REQUESTED...IN WRITING...BY EACH INDIVIDUAL READER

RECORD INCREASE IN CIRCULATION TO BUYERS

17,000 MARINE BUYERS OTHER MARINE MAGAZINE

EXCLUSIVE BONUS

**FOR ADVERTISERS IN
MARITIME REPORTER/ENGINEERING NEWS**

**400,000
FREE DIRECTORY LISTINGS
TO BUYERS**



As a service to readers, MARITIME REPORTER includes a Buyers Directory section in every issue.

Advertisers placing a series of display advertisements in MARITIME REPORTER within one year receive, at no cost, a listing in the BUYERS DIRECTORY in all 24 issues of MARITIME REPORTER during that same year.

The advertiser's company name and address appears under the appropriate product or service heading in the Directory in every issue whether an ad appears in every issue or not.

MARITIME REPORTER has a worldwide circulation to 17,490 marine buyers...TWICE each month. This means over 34,000 copies of MARITIME REPORTER are mailed to buyers every month.

This gives each advertiser over 400,000 free directory listings to marine buyers in one year...in addition to the advertising.

No other marine magazine provides this service.

The exposure advertisers receive with marine buyers in MARITIME REPORTER is overwhelmingly superior to anything offered by any other marine magazine in the entire world.

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Other marine magazines mail thousands of free copies indiscriminately to names taken from directories of recipients who have never requested the magazines. Demand to see the official circulation statements...check for non-requested free copies...be sure the readers want the magazine carrying your marine advertising.

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REPORTER**
AND
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IN THE REQUESTED MAGAZINE

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MUrray Hill 9-3266 • 7 • 8 • 9

Howard F. Casey Named To Post At USMMA

Howard F. Casey has been appointed Assistant Superintendent for Planning and Administration at the United States Merchant Marine Academy, Kings Point, N.Y.

Mr. Casey, who had served as Deputy Assistant Secretary of Commerce for Maritime Affairs with the Maritime Administration since July 1972, replaces Leonard F. Nichols at Kings

Point. Mr. Nichols retired recently after a distinguished career in government and the private marine industry.

In his new post, Mr. Casey will be responsible for advanced planning activities and will direct the departments of Budget and Accounts, Public Works, Administrative Services, Waterfront Activities, and the Infirmary at the Federal Academy. He also will assume some teaching assignments.

Mr. Casey joined the Maritime Administration in Washington,

D.C. in 1969 as the Chief of the Office of Subsidy Administration, and was subsequently promoted to the position of Assistant Administrator for Maritime Aids. In both of these positions, he was deeply involved in administering the agency's financial assistance programs for the industry and its market development and maritime training efforts. In recognition of his distinguished leadership in administering a complex maritime program which involved financing, construction and opera-

tion of U.S. merchant vessels, Mr. Casey, in 1972, was presented with the Gold Medal, the Department of Commerce's highest award.



Howard F. Casey

At the Academy, which is under Maritime Administration control, Mr. Casey will report directly to Rear Adm. Arthur B. Engel, USCG (ret.), the Superintendent.

"We are extremely fortunate," said Rear Adm. Engel, "to have a person of Howard Casey's high administrative ability assigned to Kings Point. He is well-known both at the Academy and at headquarters in Washington, and we are looking forward to working with him."

Prior to his government service, Mr. Casey worked in the comptroller's office of W.R. Grace & Co., where he was engaged in procedure analysis and systems design in the accounting and financial areas of the company. From 1957 to 1968, he was employed by Grace Line, Inc., formerly a W.R. Grace & Company subsidiary. During his employment with the steamship line, he rose through various positions in the finance and accounting departments to be appointed comptroller in 1964, and treasurer in 1968.

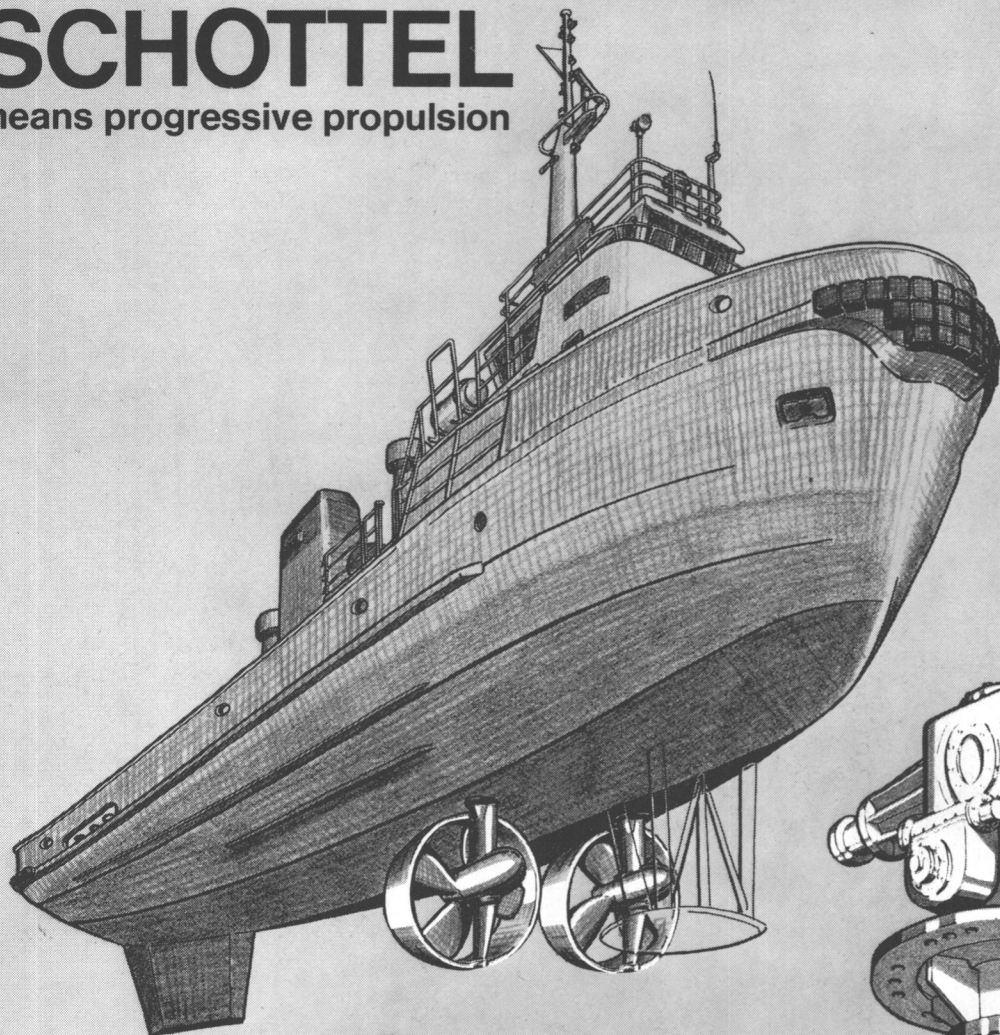
Born in Boston, Mass., Mr. Casey graduated with honors from Princeton University in 1939, and received a master's degree in business administration from Boston University in 1951. He was awarded a gold medal by the Massachusetts Society of Certified Public Accountants for achieving the highest score on the CPA examination in 1951.

He served in the U.S. Army from 1940 to 1946 as a field artillery officer in eight campaigns. He was awarded the Silver Star, the Bronze Star and the Croix de Guerre. In 1946, he was commissioned as a lieutenant colonel in the U.S. Army Reserve, and served as a field artillery battalion commander from 1947 to 1950.

From 1946 to 1952, early in his career, Mr. Casey held positions in accounting and auditing offices of the Veterans Administration and the General Accounting Office in Boston.

He is a former member of the Association of Water Transportation Accounting Officers, of which he served as executive vice president from 1965-66, and as president from 1966-67.

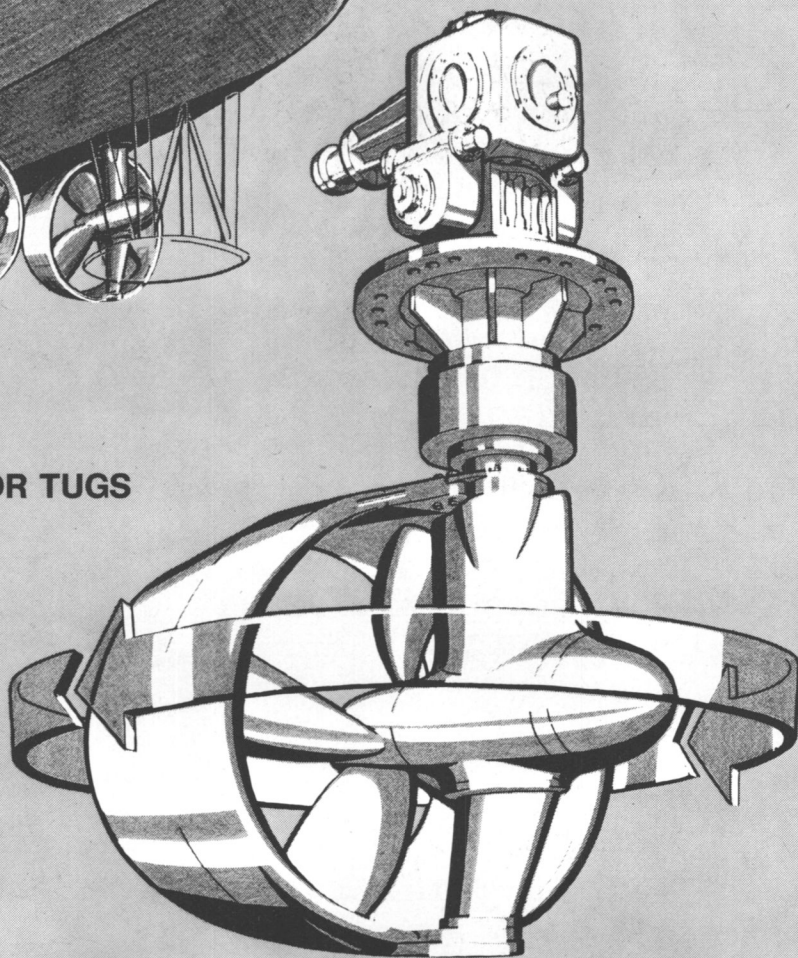
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Interim USCG Acceptance Of Perko Navigation Lights For Ships Over 20 Meters

Perko, Inc. has just been granted interim acceptance of over 100 of its navigation light models for vessels over 20 meters (65.7 feet) and for vessels over 50 meters (164.1 feet). This acceptance, granted on September 2, 1977,

enables naval architects, builders and owners to comply with the new international navigation light regulations in effect for all new vessels sailing on international waters over 20 meters whose keels were laid after 1200 hours, zone time on July 15, 1977.

The basis for the regulations in effect now occurred on March 31, 1977, when the Coast Guard pub-

lished an amendment to the Federal Register that added a new subchapter DD (33CFR 87) to the navigation and navigable water regulations. This new subchapter defines rules for implementing and interpreting the International Regulations for Preventing Collisions at Sea, 1972 (72 COLREGS) that replaced the 1960 international regulations. The primary

impact of the new regulations is on all new U.S. vessels sailing the high seas whose construction began on or after 1200 hours, zone time, on July 15, 1977. The installation of accepted Perko lights enables compliance with these regulations.

The interim acceptance was granted on the basis of test data showing that the lights meet the detailed technical requirements of the 72 COLREGS.

All Coast Guard District Offices have received copies of the acceptance letter, which lists all Perko lights complying with the new regulations. This will simplify obtaining acceptance for vessels fitted with these Perko navigation lights.

Details on the new Coast Guard Accepted lights are presented in the 1978 Perko Catalog Section B, entitled "Navigation Lights for Vessels Over 20 Meters." Write PERKO, Inc., P.O. Box 64000D, Miami, Fla. 33164.

Gotaas Larsen Names Andersen And Clausen

Gotaas-Larsen Shipping Corp., a subsidiary of IU International, has appointed **Oscar D. Andersen** executive vice president and named **Alf Clausen** vice president and technical director, it was announced by **Kenneth A.B. Trippe**, president.

Mr. Andersen joined the worldwide shipping company in 1957. He was elected a vice president in 1970 and a senior vice president in 1975. In his new position, he will assume a greater role in policy decisions and the direction of the company, in addition to retaining overall responsibility for fleet operations and technical activities.

Mr. Clausen joined Gotaas-Larsen in 1973 from Det norske Veritas, one of the leading international ship classification societies. He was appointed assistant vice president earlier this year. In his new position, he will head Gotaas-Larsen's Technical Department in Oslo and be responsible for all technical matters for the company's oceangoing fleet and shore facilities. He reports to Mr. Andersen.

Gotaas-Larsen is a diversified shipping company whose activities include transportation of liquefied natural gas (LNG), crude and refined petroleum products, coal, chemicals and grain. The company also operates semisubmersible drilling rigs and has interests in cruise ships, primarily serving Caribbean ports. Its principal offices are in New York and Oslo.

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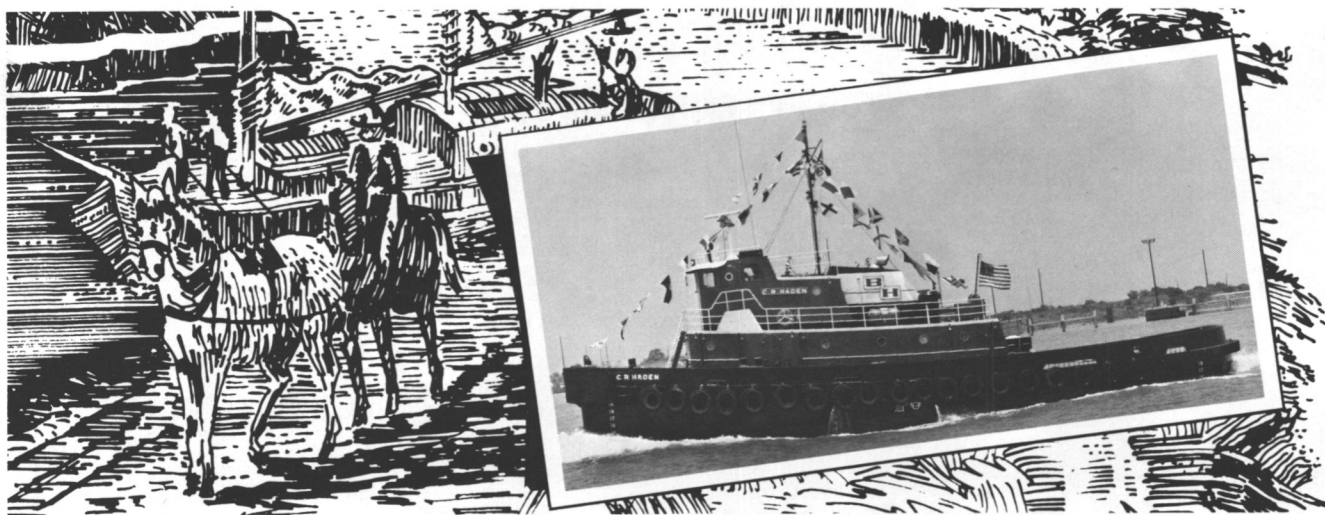
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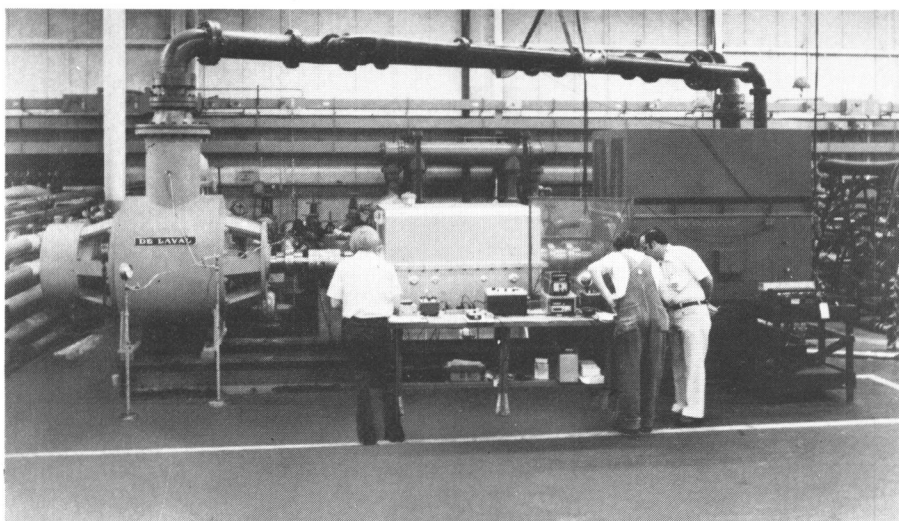
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Intermarine Electronics — Regional Dealer Seminar



Intermarine Electronics recently held a meeting at its headquarters at St. James, N.Y., for its dealers from New York, Connecticut and New Jersey. The occasion marked the introduction of the company's new marine radar, the "Intermarine 705," which was demonstrated in operation at nearby Stony Brook Harbor. The new radar is a compact two-unit equipment introduced for use by commercial fishermen and yachtsmen who want radar performance out to 32 miles without the expense or complexity of other contemporary sets. Deliveries commenced in October, and the radar is backed-up by a nationwide network of sales and service dealers. Pictured above are attendees at the St. James meeting. Top row, left to right: **Ludwig K. Rubinsky**, Electronautical Equipment Inc.; **George Mihailidis**, Connecticut Marine Electronics Inc.; **Philip D'Ambra**, Intermarine Electronics Inc.; **Carsten Peters**, Arnessen Corp.; **John P. Glynn**, Intermarine Electronics Inc.; **James Chapman**, Griffith Marine Navigation, Inc.; **Jack Wall**, Electro-Nav, Inc.; **Nick Edmondson**, NPE & Associates, Inc., and **Frank J. Cizin**, Maritime Communications Inc. Bottom row, left to right: **Peter Calimano**, South Shore Marine Radio, Inc.; **John T. Koleda**, South Shore Marine Radio, Inc.; **Keith Dickenson**, Intermarine Electronics Inc.; **Werner Brack**, Intermarine Electronics, Inc.; **Gerald Gutman**, Nav-Com, Inc.; **Murray Cohen**, Rad-Com, Inc., and **Edwin Foy**, Seatronics, Inc.

World's Largest Rotary Screw Pump Passes Performance Tests At DeLaval



Testing of the world's largest rotary screw pump at the IMO® Pump Division, DeLaval Turbine Inc., Trenton, N.J. Complete "train" includes DeLaval pump (left), fluid coupling (center), and electric motor (right).

"Full train testing" of an integrated Cargo Pumping System engineered by the IMO Pump Division, DeLaval Turbine Inc. has just been completed at the company's test facilities in Trenton, N.J. The "train" includes the largest rotary screw pump ever produced, powered by a 1,000-horsepower electric motor through a variable speed fluid coupling.

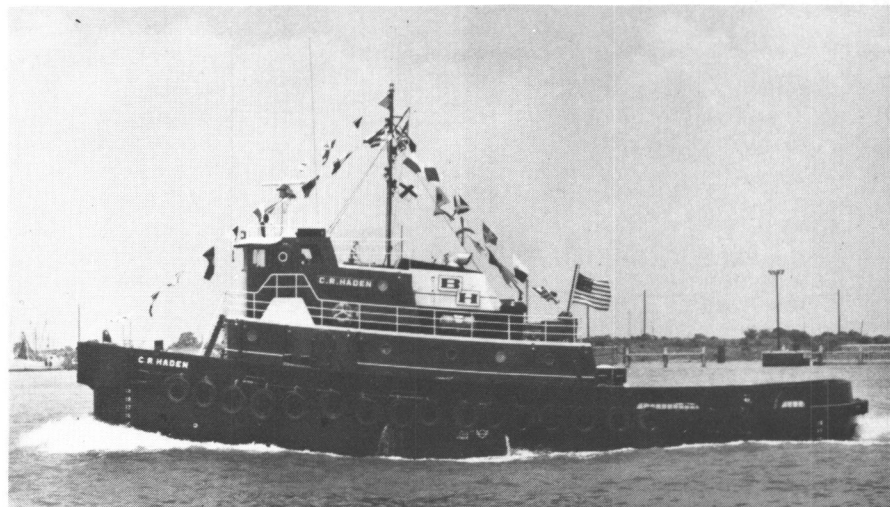
Thorough testing by DeLaval was necessary to demonstrate the pumping system's capability to unload high vapor pressure, high viscosity crude from an offshore storage vessel.

Test facility instrumentation enabled a thorough analysis of pump performance. In addition to a full spectrum vibration analy-

sis, a torque meter was utilized to measure input power. The pump was operated over the full speed range of 300 to 1,150 rpm at flows up to 5,500 gallons per minute, up to the maximum pressure of 165 pounds per square inch. Data taken indicated a suction lift capability of 27 inches of mercury.

DeLaval Turbine Inc., a Transamerica Company, has 15 operating divisions at 18 manufacturing locations worldwide. The company makes a line of industrial products including compressors, condensers, connectors, controls, diesel engines, fasteners, filters, forgings, gearing, pumps, sensors, turbines and valves.

Bay-Houston Expands Harbor Towing Fleet



Power for the C.R. Haden is supplied by two Polar Nohab 4-cycle, V-8 diesels.

Bay-Houston Towing Company recently placed into service the C.R. Haden, another powerful harbor tug for regular use at ports on the Texas coast. The 3,200-hp C.R. Haden provides the power needed for towing, maneuvering and docking the newer and larger tankers, LASH and containerships calling at ports along the Texas Gulf coast.

Fitted with Kort nozzles and twin screws, the C.R. Haden is designed to work equally well under confined harbor conditions, in narrow ship channels, or offshore. The tug is classified by the American Bureau of Shipping for ocean service.

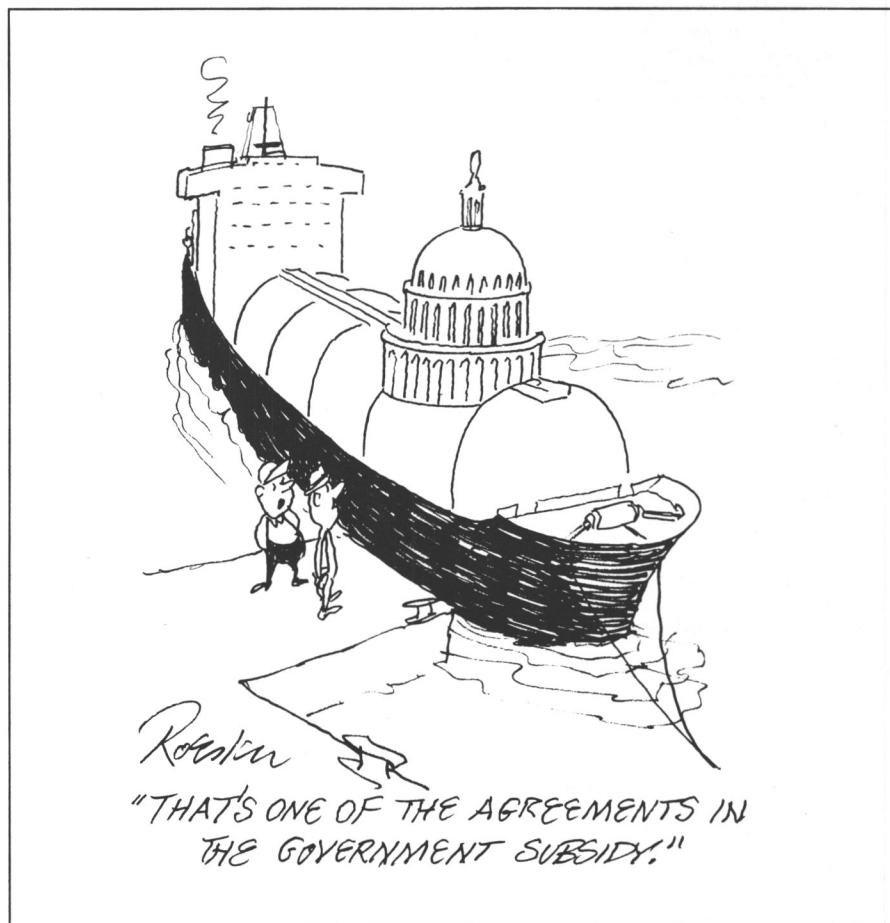
Power is supplied for the 96-foot by 32-foot vessel by two Polar Nohab 4-cycle, V-8 diesel engines. And the heavy-duty hull is designed for safe, efficient work while moving astern as well as forward. The twin rudders, twin screws and Kort nozzles provide the helmsman excellent control of the tug at all times, even under

the most adverse towing conditions. Other design features include full 360-degree visibility for the helmsman, a narrow deck-house allowing the tug to work vessels with pronounced bow flare, and a modern firefighting foam system.

Electronics on the C.R. Haden include single sideband and VHF radios, loran, radar, and a recording digital readout Fathometer. Crew comfort and efficiency are enhanced by fully air-conditioned, modern quarters, and a complete stainless-steel galley. Environmental protection is maintained through the use of holding tanks and other USCG-approved waste disposal devices.

The C.R. Haden was designed by J.L. Bludworth of Houston, Texas, and built by Todd Shipyards at Galveston.

Bay-Houston Towing Company provides harbor and coastwise towing in the ports of Houston, Galveston, Corpus Christi, Freeport, and Texas City.



ACT/PACE Opens Office In Toronto

Associated Container Transportation/PACE Line has opened its own office in Toronto, effective January 1, 1978, to accommodate the growing needs of the Ontario customers using PACE Line to Australia and New Zealand.

PACE Line, a partnership of ACT (Australia) and The Australian National Line, operates a fleet of modern container ships

with heavy lift capacity in the Australia/New Zealand trade.

This development in Canada is part of a worldwide emphasis on direct representation by ACT, which employs more than 3,000 persons internationally.

William G. Gordon, general manager of ACT (Canada), noted that the ocean carrier "wishes to express appreciation to McLean Kennedy Ltd. for a high standard of representation during an association stretching back to the

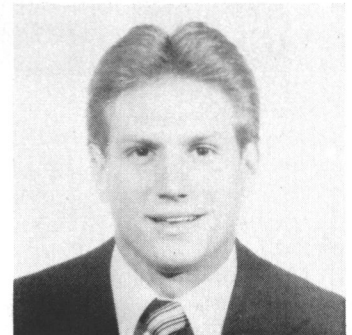
MANZ Line, which was the predecessor service to PACE from Canada." The association between ACT and McLean Kennedy will in part continue through McLean Kennedy's interest in Brunterm Ltd.'s Rodney Container Terminal in Saint John, out of which Canada port PACE Line operates.

William D. Davidson, who joined ACT (Canada) two years ago as marketing and sales manager, has been named manager, Ontario. He brings to his new position

more than 17 years in transportation, including a broad background in the Australia/New Zealand trade.

The new office will be situated at 11 Adelaide Street, West, Toronto, Canada.

C. Ronald Riemer Joins Riemer Marine Surveying



C. Ronald Riemer

Riemer Marine Surveying Inc., 1038 Tchoupitoulas Street, New Orleans, La. 70130, has announced that C. Ronald Riemer has joined the company.

Mr. Riemer received his degree in engineering from Louisiana State University in 1974, and immediately accepted a position with Union Carbide in Oak Ridge, Tenn., where he resided until his return to New Orleans.

Mr. Riemer was elected to Tau Beta Pi, honorary engineering fraternity while at Louisiana State University.

Riemer Marine Surveying Inc. does hull and machinery and cargo survey work in the greater New Orleans area, and is non-exclusive surveyors for Nippon Kaiji Kyokai, Registro Italiano Navale, and Korean Register of Shipping in the New Orleans/Baton Rouge, La., and Gulfport, Miss. areas.

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Marine Electronics...From Those Who Really Care

Oceanic Steamship Co. Formed In Miami, Fla.

Donald T. Quinn has announced the establishment of a new steamship agency in the Port of Miami, Fla. The new firm, Oceanic Steamship Company, will also serve other southeast Florida ports, including Port Everglades, West Palm Beach, and Port Canaveral.

Mr. Quinn was formerly vice president in charge of southeast Florida for Lavino Shipping Co., and prior to that served in the same capacity for Luckenbach Steamship Co., before Lavino acquired the Luckenbach operations in 1975.

Mr. Quinn will serve as president of the new firm and H.J. Burley Smith as a director. Mr. Smith is also chairman of the board of IMM, Felixstone, England, a large U.K. steamship agency, trucking and warehousing firm. Both principals are graduates of Kings Point.

Oceanic will make its headquarters at 903 South America Way, Miami, Fla. 33132.

Dravo SteelShip Delivers 56-Foot M/V Becky Sue To Taylor Towing For Switching/Mooring Service



Powered by twin General Motors Detroit Diesel engines, the Becky Sue will be operating in the Caruthersville area below St. Louis, Mo.

Dravo SteelShip Corporation, Pine Bluff, Ark., a subsidiary of Dravo Corporation, Pittsburgh, Pa., has announced delivery of the M/V Becky Sue to Taylor Towing Company, Inc. of Caruthersville, Mo. The Becky Sue will be operating at Taylor's switching and mooring services in the Caruthersville area below St. Louis, Mo. and above Cairo, Ill.

The M/V Becky Sue is a standard SteelShip 56 design measuring 56 feet long by 20 feet wide by 7.5 feet deep. The hull is divided into five watertight compartments and carries 10,000 gallons of fuel. Freshwater, waste holding and oil storage tanks are provided. The fuel fills and vents are in a central location, with fuel spill containment now required by the U.S. Coast Guard on all vessels over 100 tons.

The SteelShip standard push-knees are protected with Johnson Rubber Towknee material. A walkway is provided from the Texas deck level out to one of the towknees for easy access to empty barges.

The vessel is powered by twin General Motors Detroit Diesel 12V71 diesel engines with Twin Disc MG-514, 6:1 reduction gears. It also has two General Motors Detroit Diesel generator sets; one 2-71, 1,200 rpm, 20 kw, and one 3-71, 1,200 rpm, 30 kw. The main engines and generators were supplied by Wilkerson Diesel of North Little Rock, Ark.

The running gear consists of 5-inch diameter, steel shafts with nickel chrome boron sleeves turning in Johnson Demountable stern tube and strut bearings with Kahlenberg stainless-steel, heavy-duty, four-blade, 60-inch-diameter by 48-inch-pitch propellers.

The M/V Becky Sue has Morse engine controls, Perko incandescent searchlight, Carlisle & Finch Carbon Arc searchlight, Perko running lights, heating and air-conditioning, quartz deck lights, Nabrico 20-ton hydraulic deck winches.

The Becky Sue is equipped with four flanking rudders and two main rudders with independent full follow-up pilothouse controls. The flanking and steering rudder systems are from main engine driven pumps pad mounted to the GM diesels. As standard with all SteelShip vessels, the lubrication for the thrust bearings and other steering equipment is piped to a central location in the engine room to facilitate ease of lubrication. The rudder stocks have nickel chrome boron sleeves turning in nylon bearings on the lower end, and lubricated cast-iron bearings on the upper end.

A SteelShip standard monitoring panel was installed in the pilothouse to warn the operator of any abnormal operating conditions that might occur in the engine room.

In addition to the production of pushboats, ocean tugs, and barges, which are on contract, Dravo SteelShip is building for stock one SteelShip 48, one SteelShip 52, one SteelShip 50, and one SteelShip 56. All of these stock boats will be completed for delivery in the first quarter of 1978, with delivery at present ranging from 60 to 120 days, depending upon machinery availability.

For more information about any SteelShip designs or Alumina-Ship designs, write Dravo SteelShip Corporation, Edward D. Fry, vice president/general manager, Route 4, Box 167, Pine Bluff, Ark. 71602.

National Safety Council Presents Top Citation To Bruno J. Augenti



Six maritime industry leaders, including a top official of the International Longshoremen's Association (ILA-CIO), were honored by the National Safety Council for actions in behalf of worker safety. Five of the group were cited for outstanding presentations to the NSC's Marine Section meeting. The sixth—**Bruno J. Augenti** of the Marine Index Bureau, Inc. of New York—was tendered the Citation for Distinguished Service to Safety, the NSC's highest honor. They are seen here following the presentations in Chicago, Ill., along with **David S. Walker** (back row—left), the former general chairman of the Marine Section; and Rear Adm. **Robert H. Scarborough**, Commander of the Ninth Coast Guard District, who took part in the ceremonies.

The recipients (from left—front row) are **Robert B. Savin** of the 3M Company; **Mr. Augenti**, and **John H. Leeper** of Simat, Hellesen & Eichner, Inc. The three recipients in the back row (starting second from left) are **Jack Thornhill** of Southern Towing Company; **Myles E. Billups Sr.**, vice president of the ILA, and **John Faulk** of Strachan Shipping Company.

As a member of NSC's Marine Section since 1939 and an active participant in ship industry safety program and planning dating back to the 1920s, **Mr. Augenti** has achieved ranking as one of the most knowledgeable individuals in the field. It was in recognition of these outstanding achievements in marine safety that he was presented with the top award of the National Safety Council.

Included among his efforts were the development of safety programs for United States-flag steamship companies following World War II, at the request of the United States Coast Guard and the American Merchant Marine Institute. In addition, through his own company, he has compiled

numerous specialized reports and data analyses for use by maritime industry companies in their accident prevention programs.

He also served as maritime representative on the 1962 President's Conference Committee on Occupational Safety, and in 1970 the Department of State appointed him an advisor on the United States delegation to the Inter-Governmental Maritime Consultative Organization. Also, in 1976, he was invited by the United States Department of Labor to review and comment on a proposed chapter covering the maritime industry in the agency's Field Operation Manual for Prevention of Accidents and Injuries.

Mr. Augenti is presently chairman of the Best Paper Award Committee of the National Safety Council's Marine Section and is also secretary of the Nominations Committee.

The National Safety Council was founded in 1913 to encourage safety in all aspects of national life. It is chartered by Congress as a nongovernmental, nonprofit, volunteer public organization composed of individuals and company members.

Oceaneering International Names Craig Marley To Singapore Office

Oceaneering International, Inc., 10575 Katy Freeway, Houston, Texas 77024, announced that **Craig Marley** has been appointed vice president - sales, Southeast Asia/Australia. He will be based in the company's Singapore office.

Mr. Marley was formerly marketing manager of Sub Sea International. Prior to that, he was associated with Ocean Systems and Makai Range, with responsibilities in both operations and marketing.

Oceaneering is one of the world's largest diving and underwater construction contractors.

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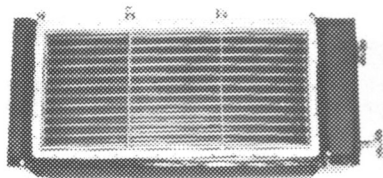
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SEMINAR ON SHIP OPERATIONS — Attendees at the Seminar on Ship Operation in Heavy Weather, held recently at Webb Institute of Naval Architecture, Glen Cove, N.Y. 11542. Lectures and discussions covered the latest developments in shipboard instrumentation to assist in optimizing ship behavior at sea and in weather routing procedures to minimize delays due to rough seas. From left to right: (Front row) **David Tein**, American Bureau of Shipping; **Horton Lain**, Hydronautics, Inc.; **Soon I. Hong**, J.J. Henry Co., Inc.; **A. Erich Baitis**, David W. Taylor NSRDC; **M.A. Blanchard**, Edo Corp.; **Richard J. Burke**, SUNY Maritime College; **Dr. George Christoph**, Sun Shipbuilding & Dry Dock Co. (Second row) **John Dalzell**, Davidson Laboratory; **Norman Stevenson**, Fleet Numerical Weather Central (FNWC); **Dr. Henry Chen**, M.I.T.; **Dr. Dan Hoffman**, Webb Institute; **John Hayes**, FNWC; **Dr. Vincent Cardone**, City University of New York; **Dr. Walter Maclean**, NMRC, Kings Point; **Robert Reid**, Sperry Marine Systems. (Third row) **Prof. Edward V. Lewis**, Webb Institute; **William A. Silveria**, Ocean Routes, Inc.; **Harvey C. Paige**, Maritime Transportation Research Board; **James Ware**, Department of Navy, Sealift Command; **Susan M. Lee Bales**, David W. Taylor NSRDC; **Wolfgang Reuter**, NavSec; **Lt. Mark D. Noll**, U.S. Coast Guard; **William H. Garzke Jr.**, Gibbs & Cox, Inc.; **Rear Adm. Charles Payne**, USN (ret.), Webb Institute. (Last row) **Edward Comstock**, NavSec; **Edward Duffy**, NavSec; **Don Ewing**, U.S. Coast Guard; **James W. Wheaton**, Teledyne Engineering Services; **Peter Flemming**, John J. McMullen Associates, Inc.; **Lt. Comdr. William Stark**, U.S. Merchant Marine Academy, and **Norman Cima**, Ocean Routes, Inc.

The Parcel Tanker Trades

The term parcel tanker has no precise meaning, but it is frequently applied to highly specialized ships designed to carry highly specialized liquid cargoes (which often have severe hazards as regards toxicity, corrosiveness, inflammability, or a combination of these, or which must be kept free from all contamination) in relatively small cargo lots, perhaps with a minimum of some 500 tons. In Study Number 58, a rather more liberal interpretation of the term parcel tanker has been adopted, and all tankers of a greater sophistication than a conventional refined products carrier, and their

cargoes, have been included, subject to a minimum size of 10,000 dwt. The minimum size enables the analysis to concentrate on inter-regional deepsea trades. In many ways, this is the most fascinating sector of the tanker market, containing not only relatively simple ships, but also those embodying the most advanced technology for transporting and handling bulk liquid cargoes. However, there is increasing pressure for international standards to be applied to the transportation of all dangerous liquids by sea, and this pressure is having a profound influence on the design and operation of parcel tankers.

After introducing the concept of the parcel tanker and explaining the nature of some of the legislative/regulatory pressures on the owners and operators of these ships, the study moves on to identify cargo types and to analyze the main inter-regional movements of chemicals, solvents and vegetable oil cargoes on a matrix basis for the years 1973 and 1975. A comprehensive fleet analysis follows (by ship type, size, age and major operator) which allows comparisons to be made between the balance of supply and demand of ships for the historical years analyzed. Finally, some projections are made of the likely developments in the chemical trades up to the early 1980s and of the potential future supply/demand balance for parcel tankers.

For a copy of Study No. 58, "The Parcel Tanker Trades," write to HPD Shipping Publications, 34 Brook Street, Mayfair, London W1Y 2LL. Orders for overseas @ U.S. \$75.

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John T. Gilbride To Head Friends Of SCI Benefit Dinner Honoring James A. Farrell Jr.

Under the leadership of John T. Gilbride, chairman, Todd Shipyards Corporation, the Friends of the Seamen's Church Institute of N.Y. will hold a gala dinner, Wednesday, January 25, 1978, at the Plaza Hotel, New York City.

The dinner will honor James A. Farrell Jr., chairman of Farrell Lines Inc., as outgoing chairman of the Friends of SCI and as the acknowledged dean of the maritime industry.

Special entertainment for the evening will be the United States Navy Band Sea Chanters.

To date, more than 30 other maritime transportation executives have joined in sponsoring the dinner by serving as vice chairmen. Further information regarding the dinner may be obtained by calling Mrs. Zelda Mueller, SCI Development Director, at Seamen's Church Institute, 15 State Street, New York, N.Y. 10004, phone (212) 269-2710.

Net proceeds from the dinner will support the Institute's work with merchant seamen of all nations entering the Greater Port of New York/New Jersey.

Pittsburgh Brass Issues New Reference Guide For Line Of PBM Multi-Port Ball Valves

The capability of PBM's Multi-Port Ball Valves to control flow direction and shut-off into a single unit, and at the same time permit selection of 73 different flow patterns is fully taken up in the company's newly published MP Series Reference Guide.

As an aid to process engineers, the technical aspects of these versatile valves are well covered. Included are all 73 flow patterns, plus specific application examples for the 3, 4, and 5-way valves. Detailed engineering drawings for all styles, plus drawings for optional Tee Port, Angle Port, and Double Angle Port configurations are also included. So that valves can be exactly matched to specific requirements, specifications for all the six metals available are listed, along with pressure ratings, working temperatures, and optional seat and seal materials. End fittings, actuators, and handles and operators are also included.

Sizes range from 1/2 inch to 4 inches in pressure ratings to 400 psi and temperatures to 500°F.

For your copy of Reference Guide for the MP Series, write to Joseph H. Collins, Pittsburgh Brass Manufacturing Company, Ball Valve Division, Sandy Hill Road, R.D. 6, Irwin, Pa. 15642.



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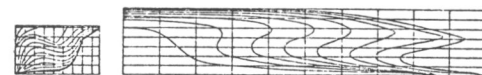
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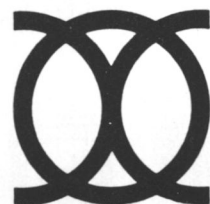
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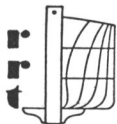
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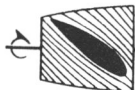
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DIPLOMATE IN NAVAL ARCHITECTURE AND MARINE ENGINEERING

ASNE Flagship Section Hears Description Of USCG Oil Pollution Strike Teams



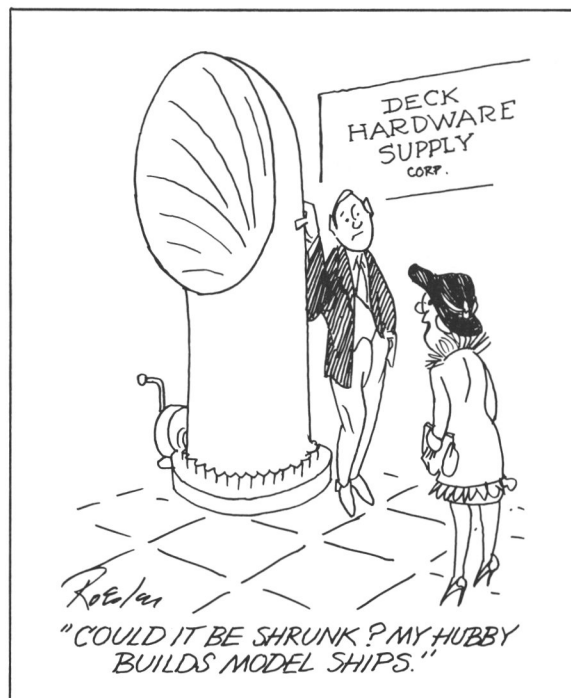
ASNE Flagship Section chairman Capt. Thomas Albee, left, presents Certificate of Appreciation to main speaker Comdr. Joseph Valenti, center, as Capt. John Lobkovich, Commanding Officer, USCG Yard, Curtis Bay, Md., watches.

The Flagship Section, American Society of Naval Engineers met recently at the USCG Yard at Curtis Bay, Md. Approximately 100 members and guests enjoyed the social hour and dinner which was hosted by Capt. John Lobkovich, USCG, Commanding Officer of the yard.

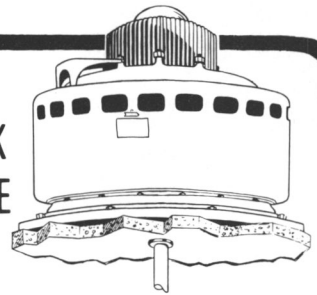
After dinner, Capt. Thomas Albee, USN, Section chairman, introduced the speaker, Comdr. Joseph Valenti, USCG. Comdr. Valenti is assigned to the Marine Environmental Protection Division, USCG Headquarters, and his subject was "Coast Guard Response to Oil Spills in the North Atlantic." Comdr. Valenti described that pollution response was the responsibility of the Federal Government, and the USCG has the responsibility as the coordinating agency and as the "on-scene coordinator." The national strike force is composed of three strike teams (manned by USCG personnel) located on the East, Gulf and West Coasts.

With the use of visual aids, Comdr. Valenti described various equipment available to the strike teams in the event of a pollution incident to limit and contain the pollutant, and also aid in its removal. All equipment has been designed and developed to be air deliverable by heavy-lift helicopters or fast surface delivery systems.

After the formal presentation, members queried Comdr. Valenti with numerous questions, and were highly appreciative of his excellent presentation.

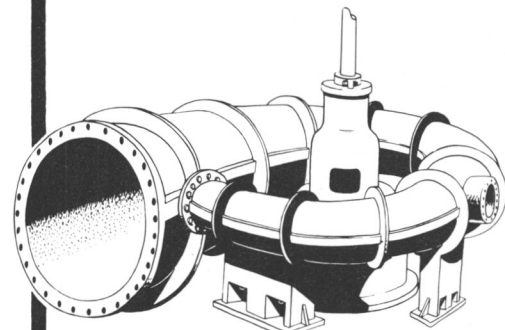


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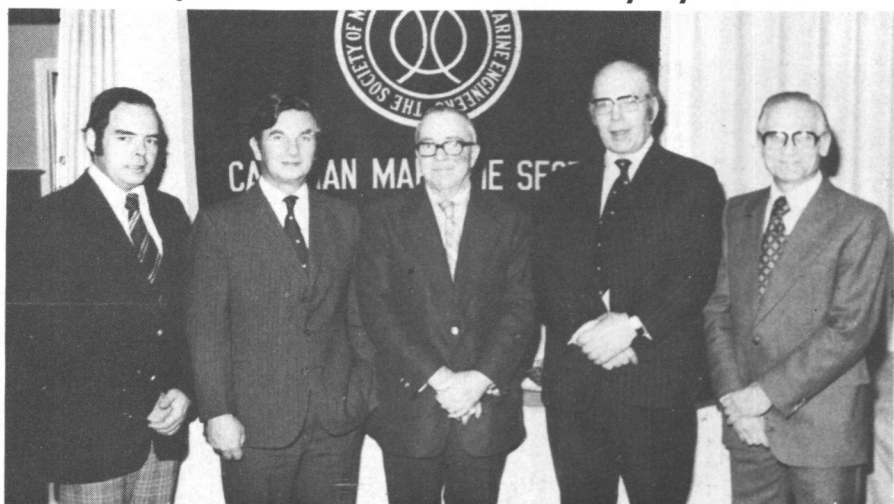
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Canadian Maritime Section Discusses Paper On Waste Heat Recovery System



Shown at the Canadian Maritime Section meeting are, left to right: **M. Bourgeois**, vice chairman of Section; **M. Swallow**, Leslie Engineering; **G. Small**, president of Professional Engineers of New Brunswick; **E.P. Crowdy**, author, Leslie Engineering U.K., Newcastle-On-Tyne, and **Erich G. Hinze**, Section chairman.

The second meeting of the 1977-78 season of the Canadian Maritime Section of The Society of Naval Architects and Marine Engineers was held at the Wandlyn Motel in Saint John, New Brunswick, on November 15, 1977.

The guest speaker for the evening, **E.P. Crowdy**, presented his paper, "Waste Heat Conversion Plant for Use with Diesel and Gas Turbine Installation."

The speaker started through basic thermodynamics and physical limitations such as sulphuric acid dew point to the ideal cycle and concluded that, theoretically, it was possible to recover from 7 to 12½ percent of the waste heat of a slow speed diesel. According to the authors, this heat recovery would be viable provided that powers in excess of 10,000 hp were available. The waste heat recovery unit described by the authors is a self-contained generating plant comprising a condenser, steam generator, and vertically mounted steam turbine. The author spent some time ex-

plaining the unique characteristics of this turbine, which were as follows: (1) vertical mounting, (2) water lubricating thrust bearing, and (3) fabricated stainless steel rotor.

An interesting detail of this presentation was the manufacturing method for the turbine blades. The turbine consisted of sandwiched turbine stages which were made of cast stainless steel. An unusual feature was that the blades were machined by an electro-chemical process from the cast stainless steel, thus no residual strains or anchoring problems. The unit itself is self-contained and is designed for fully automatic operation. The author pointed out that this system became viable as a result of the Arab oil price hike in 1973.

Following the presentation, a very active question period concluded the meeting. The author was precise and very well informed, and this allowed for a very interesting evening for all members.



ASNE MEETING — The San Diego Section of the American Society of Naval Engineers held its quarterly meeting at the Marine Corps Recruit Depot Officers Club, San Diego, Calif. Comdr. **John Higginson**, Commanding Officer of Antisubmarine Helicopter Squadron 10, was the guest speaker. His topic was "The Role of Helicopters in Relation To Surface Units." Commander **Higginson's** presentation was extremely interesting, covering the various types of helicopters engaged in operations with fleet units, and the multitude of tasks they perform. He also covered the problems of ship and support facility design as seen from a pilot's point of view. Shown at the meeting, left to right: **Rich Stoklosa**, vice chairman; **John Snyder**, chairman; Comdr. **John Higginson**, guest speaker, and **Lou Gerken**, program chairman.

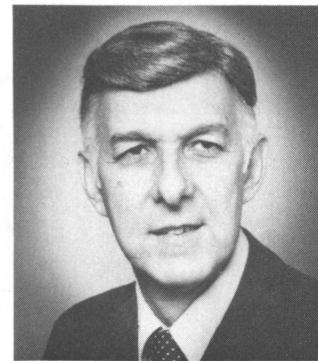
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The new Metridirectory™ readout console is offered by Metritape, Inc. (Concord, Mass.) for the centralized level readout of stored materials, including liquids, slurries and dry granular solids. The two types of Metridirectory, Types 1310 and 1320, display up to 10 or 20 tanks, respectively, with material levels read on a precision digital indicator. Adjustable level alarms, two for each tank, provide automatic visual and audible alarm indication, while a tank directory listing on the front panel clearly identifies tank contents.

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For additional information, write to **Douglas Campbell**, Metritape, Inc., 33 Bradford Street, West Concord, Mass. 01742.

Delta Steamship Appoints Landry



Francis J. Landry

Francis J. Landry has been appointed general traffic manager-West Gulf for Delta Steamship Lines, Inc., according to an announcement by **Fred A. Wendt**, senior vice president-traffic and sales of the New Orleans, La.-based line.

Mr. **Landry**, stationed in Delta's Houston, Texas, office, will be in charge of all traffic and documentation services of the line at West Gulf ports.

A native of Crowley, La., Mr. **Landry** is a graduate of Louisiana State University and has worked in maritime and related industries since 1950.

Delta Steamship Lines, Inc. owns and operates a fleet of ultramodern cargo vessels maintaining regular American-flag service between U.S. Gulf of Mexico ports and east coast of South America, Central America, the Caribbean and west coast of Africa.



Twin City Barge Names W.L. Lusk Vice President



William L. Lusk

William L. Lusk has joined Twin City Barge & Towing Co. as vice president and general manager of the company's Marine Group, John W. Lambert, president, announced. Twin City Barge's Marine Group includes all barge and towing activities.

Mr. Lusk formerly was traffic manager for Cargo Carriers, Inc., Minneapolis, Minn., with whom he served 21 years in various executive positions.

A native of Owatonna, Minn., he attended Iowa State College and the University of Minnesota.

Twin City Barge & Towing Co., 11303 Red Rock Road, St. Paul, Minn. 55165, is a diversified company manufacturing barges, towboats and other types of marine equipment. It also is engaged in the development and marketing of coal, operates a major river terminal with a complete intermodal exchange between rail, truck, barge and pipeline, and serves as a carrier of dry and liquid bulk commodities. Its operations extend from the Twin Cities and Chicago throughout the inland river system of the United States.

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SNAME Gulf Section To Hold Winter Meeting February 10 In Houston

The Gulf Section of The Society of Naval Architects and Marine Engineers will hold its Annual Winter Meeting in Houston, Texas, on Friday, February 10, 1978, at the Hyatt Regency Hotel, according to information released by John Chivvis, West Area vice chairman.

The meeting will bring together representatives of the Society and guests from Texas, Louisiana, Mississippi, and Alabama in a program which includes technical sessions, a luncheon meeting, and a dinner-dance.

Robert T. Young, who is president of The Society of Naval Architects and Marine Engineers, and also president of the American Bureau of Shipping, will be the featured speaker at the dinner meeting.

Interested persons may obtain further information through David C. Kilgore, c/o Allan C. Mc-

Clure & Associates, Inc., Suite 514, 2600 South Gessner, Houston, Texas 77063.

MarAd Approves Addition Of Second Barge For F&S

The Assistant Secretary has approved in principle an amended application by F&S Offshore, Inc., 3501 N. Causeway, Suite 600, Metairie, La., for a Title XI guarantee to aid in financing the construction of two oceangoing deck cargo barges. Previously, F&S sought and received Title XI approval for just one of these barges.

The two barges are being built at Bludworth Shipyard, Inc., Houston, Texas. The estimated actual cost of the vessels is approximately \$2.8 million (combined).

The vessels will be used in the offshore petroleum industry, primarily in the Gulf of Mexico. With a deck capacity of 1,500 pounds per square foot, they will be capable of transporting pipe,

modular units, platforms and other construction, drilling and pipelaying materials. Each barge will measure 250 feet in overall length, and have a beam of 72 feet and a depth of 16 feet.

On April 26, 1977, F&S received conditional Title XI approval for the construction of one barge. However, F&S requested an amendment on September 3 to add one identical barge. At that time, F&S also asked for approval to make CRC, a Louisiana corporation, owner of both of the vessels.

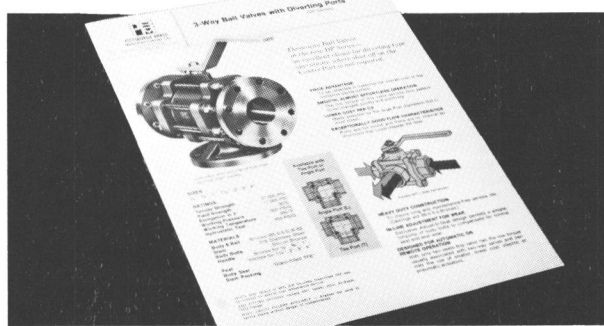
CRC, a wholly owned subsidiary of CRC Corporation, 200 Park Avenue, New York, N.Y., will bareboat charter the barges to F&S for an initial term of seven years. Elpac, Inc., parent company of F&S, will operate the vessels under a service agreement with F&S.

In this most recent action, the Assistant Secretary has conditionally approved the addition of a second barge, the ownership of both barges by CRC, and the termination of the original Title XI agreement for one barge.

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Oceanographic Deck Machinery Subject Of Paper Presented At Pacific Northwest Section



Shown at the Officer's Club in Seattle, left to right: **Paul Zankich**, vice chairman, Puget Sound Area, Pacific Northwest Section; **John M. Trondsen**, vice president, T & L Associates Inc., author; **Gerald Talbot**, chairman, P.N.W. Section, and **William Dahlbeck**, Papers Committee chairman, P.N.W. Section.

Approximately 80 members and guests of the Pacific Northwest Section of The Society of Naval Architects and Marine Engineers attended a regular meeting at Pier 91 Officer's Club, Seattle, Wash.

After the dinner, a technical paper entitled "Oceanographic Deck Machinery" was presented by **John M. Trondsen**, vice president, T & L Associates Inc., who furnished his audience with an excellent review of current oceanographic deck machinery, describing operational requirements, capabilities, design considerations and maintenance.

The paper contained typical specifications for hydrographic and oceanographic winches and u-frames, a specific comparison of marine deck cranes versus land cranes and a description of the design, purpose and application of fixed sheaves, flag blocks and hanging or gallows blocks. Winch design was also discussed, particularly the electro-hydraulic types using high-speed hydraulic motors connected to the drum through gear reducers alternatively low-speed high-torque hydraulic motors direct connected. Considerable emphasis was placed on the art of wire rope spooling, and grooved shells installed on the drum are well advised when more than a few layers of cable have to be spooled. It was pointed out that the area of greatest change in oceanographic winches is in the control and monitoring systems which can now electronically provide for a multiplicity of remotely controlled functions, including brake release, acceleration and deceleration, tension, speed and horsepower limitations, direction sensing, etc.

In conclusion, the author stressed the importance of oceanographic deck machinery being designed for operation on the open main or weather decks.

Due to this exposure and an overlapping responsibility between the deck crew and engine room personnel, particular attention should be paid to deck machinery maintenance.

Discussors were **Robert A. Schelling** and **W.H. Etter**.

Copies of the paper can be obtained from the Section librarian.

Crowley Environmental Services Named Exclusive Distributor For 40-Knot Pollution Control Vessel

High speed and versatility are the key features of a new all-purpose/spill response vessel. A fiberglass and balsa-core workboat, the Raider SRV-1034 measures 34 feet by 10 feet, providing abundant cargo-carrying capacity at speeds up to 40 knots.

The vessel was designed for operation in open seas, and features a shallow-draft hull design for operation close to shore. The Raider SRV-1034 is equipped with a bow ramp which can be lowered while in open water. This facilitates discharge of boom and other pollution-control materials. The ramp is also valuable as a beaching tool for on- and off-loading equipment and supplies, and for personnel movement.



The Raider SRV-1034 measures 34 by 10 feet, is manufactured by Raider Marine Corporation, Anacortes, Wash., and is distributed exclusively by Crowley Environmental Services Corporation.

More than 225 square feet of deck space is available for operating skimming and other pollution-control equipment. The Raider SRV-1034 can also be outfitted with accessory equipment such as cranes, winches or tripods to facilitate its use as a fishing boat, crewboat, diving boat or cargo lighter. The 6-foot by 6-foot pilothouse is optional, and can be located anywhere on deck.

The Raider SRV-1034 is part of the Raider Marine Corporation "Beaver" Line of workboats, and was developed in conjunction with Crowley Environmental Services Corporation. Crowley Environmental Services, with offices throughout the West Coast and Alaska, is the exclusive distributor for the new craft. For further information and viewing, contact the Crowley Environmental Services office nearest you.

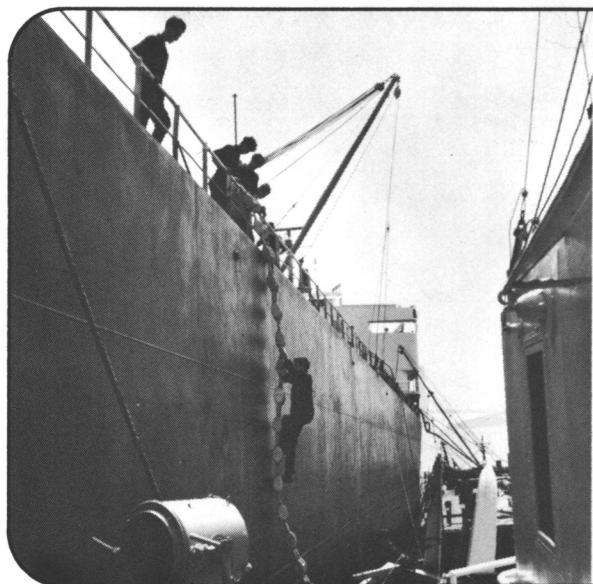
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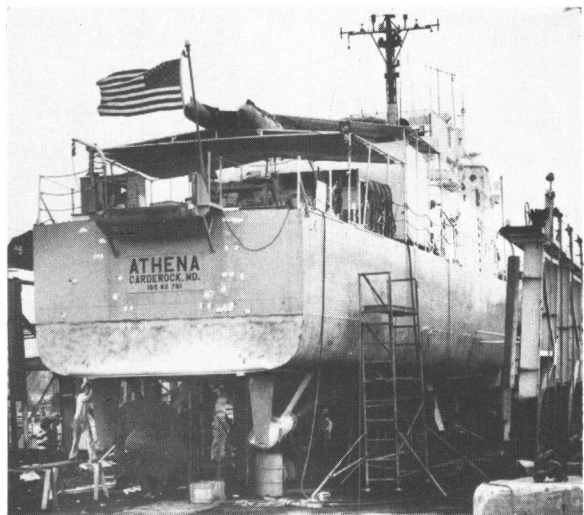
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Atlantic Dry Dock Corp. Modifies Research Vessel

Atlantic Dry Dock Corporation, Ft. George Island, Fla., marine repair facility, recently completed a highly specialized conversion of the research vessel Athena. The Athena, a high-speed R & D ship operated by the David W. Taylor Ship Research & Development Center, was specially equipped for a federally funded wake survey conducted by a group of professors from the University of Michigan.



High-speed research vessel Athena gets complex prop and hull modifications and subsequent routine hull maintenance at Atlantic Dry Dock Corporation, Ft. George Island, Fla., prior to participation in a special wake survey.

The work accomplished by Atlantic Dry Dock Corporation involved the installation of research gear on the underwater hull, modification of the turbine reduction gear, and modification of the controllable-pitch propellers for the wake survey. Upon completion of the tests, the ship was returned to its original configuration. Routine drydock procedures—cleaning and bottom-painting—were also performed.

The Athena is a unique vessel combining twin diesels for normal cruising, with a 14,000-shp gas turbine engine that is utilized for high-towing loads and speeds up to 40 knots. The high-speed capability facilitates research on towline, acoustic masking and sonar sensors, as well as the wake survey. She has accommodations for 15 engineers and technicians, and can accommodate up to 10 tons of deck equipment.

Atlantic Dry Dock Corporation and Atlantic Marine, Inc. are located on the St. Johns River just two miles from the Atlantic Ocean. AMI specializes in the construction of steel-hulled fishing, offshore and river-harbor vessels, and ADDC has master ship repair contracts from the U.S. Navy, Coast Guard and Army Corps of Engineers.

Bergeron Industries Awarded Orgeron-Theriot Barge Contract

Bergeron Industries, Inc., St. Bernard, La. 70085, has been awarded a contract by Orgeron-Theriot Interests of Golden Meadow, La., for the construction of two oceangoing deck cargo barges. Each barge will have overall dimensions of 298 feet by 72 feet by 18 feet, and will be built to American Bureau of Shipping Class "Maltese Cross A-1" unrestricted ocean requirements.

Both barges will be built at Bergeron's Marine facility located on the Mississippi River at Braithwaite, La., near the Port of New Orleans, and are scheduled for delivery in 1978.

Port Weller Dry Docks Awarded Contract To Build Self-Unloader For Upper Lakes Shipping Ltd.

An order for a maximum Seaway-size self-unloading bulk carrier has been awarded to Port Weller Dry Docks by Upper Lakes Shipping Ltd. of Toronto, Canada. This is the second order for almost identical vessels placed with Port Weller by Upper Lakes Shipping last year.

The two ships, designated as Hulls 64 and 65, are similar to Canadian Olympic delivered to Upper Lakes in October 1976.

Like Canadian Olympic, they will be equipped with patented cargo reclaimers developed by Port Weller and Stephens-Adamson of Belleville. Both will also have unloading and reballasting consoles built by

Port Weller's subsidiary, Canal Electric Ltd. From the console, the unloading operation is performed by one man at a rate of 6,000 tons per hour.

Both ships will be built to an overall length of 730 feet (222.5 m). However, their breadth of 75.83 feet (23.12 m) will slightly exceed that of previous ships due to new width regulations now authorized by the St. Lawrence Seaway Authority.

Hulls 64 and 65 will be powered by twin diesel engines generating 10,000 metric bhp. Speed will be 13 knots (15 mph).

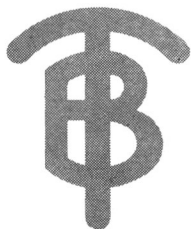
In the interest of energy conservation, Port Weller is exploring methods of propulsion economy for incorporation into Hull 65's design.

Hull 64 is scheduled for delivery in May 1979, and Hull 65 in December 1979.

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**Long Beach-Greater Los Angeles
Section Of ASNE Discusses
Union Oil's Tanker S/S Sansinena**



Pictured at November meeting of Long Beach-Greater Los Angeles Section, ASNE, left to right: Rear Adm. John H. Pedersen, USNR, program chairman; William L. Shumate, supervisor of safety and training, Union Oil Co., speaker; Philip Finkelstein, Section chairman, and Comdr. Richard J. Kinnear, Section vice chairman.

The Long Beach-Greater Los Angeles Section of the American Society of Naval Engineers, Inc. held its November meeting at the Ports O'Call Restaurant, overlooking the Los Angeles Harbor in San Pedro. Following dinner, **Philip Finkelstein**, chairman of the Section, started the business and technical session of the program. The business portion was promptly consummated and chairman **Finkelstein** called on Rear Adm. **John H. Pedersen**, USNR, program chairman, to introduce the speaker for the evening. Following his introduction, **William L. Shumate**, supervisor of safety and training, the Union Oil Co., gave a very interesting and informative insight from a somewhat unusual observation perspective regarding the disaster that befell the S/S Sansinena.

The tanker Sansinena was under charter to the Union Oil Co. and had completed discharging her cargo at the deepwater terminal of the Union Oil Co. in San Pedro Bay when an explosion occurred that literally blew the ship apart.

Mr. Shumate was called immediately and within a very few minutes of the blast was on the site in his capacity of safety supervisor. He gave a first-hand view both orally and pictorially of the effects of the tremendous explosion in a rather informal presentation that started by his telling of the safety inspection that he had conducted in company with the cognizant port authorities just a few days prior to the disaster.

The word pictures **Mr. Shumate** related were given in a very informal and yet extremely professional manner without making any conclusion or assessments as to the cause or responsibility for the disaster. The informality of his presentation prompted considerable audience participation in both questions and comments and increased the educational as well as the entertainment value of the subject immeasurably.

The January meeting will be held jointly with the Marine Technology Society and The Society of Naval Architects and Marine Engineers, and will be hosted by MTS.

**Inland River Ports & Terminals
Schedules Annual Meeting
For February 2-3 In Memphis**

The annual meeting of Inland Rivers Ports & Terminals, Inc., an association of cargo-handling facilities and ports which service barges, will be held February 2-3, 1978, at the Sheraton Convention Center Hotel, 300 North Second Street, Memphis, Tenn. Information on the program, which will include a tour of port facilities on President's Island, will be released soon. Room reservations should be made directly with the hotel, and reservations for the meeting with **George L. Conway**, Mid-South Terminals Corporation, 1145 Channel Avenue, Memphis, Tenn. 38106.



TAKING CHARGE — Capt. **Charles L. Mull** (right), Supervisor of Shipbuilding for the Navy in Bath, signed the formal delivery agreement which transferred the prototype guided missile frigate Oliver Hazard Perry (FFG7) to the Navy one month ahead of schedule. Sharing in the brief ceremony were **John F. Sullivan** (center), president of Bath Iron Works where the ship was built, and Comdr. **Stephen J. Duich**, prospective Commanding Officer of the O.H. Perry. The new warship was commissioned at the Bath, Maine, shipyard.

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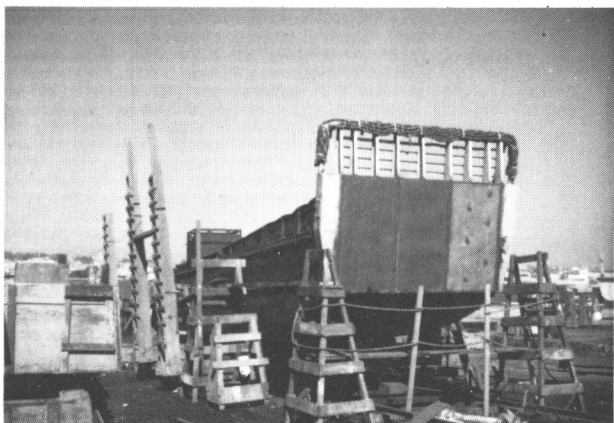
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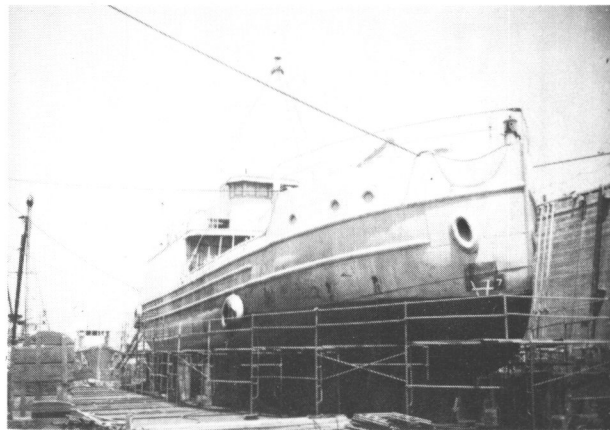
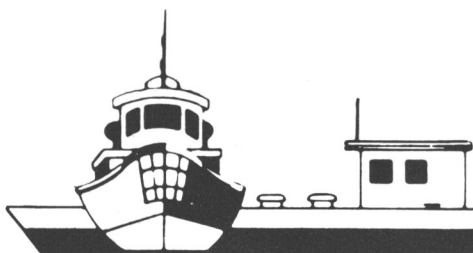
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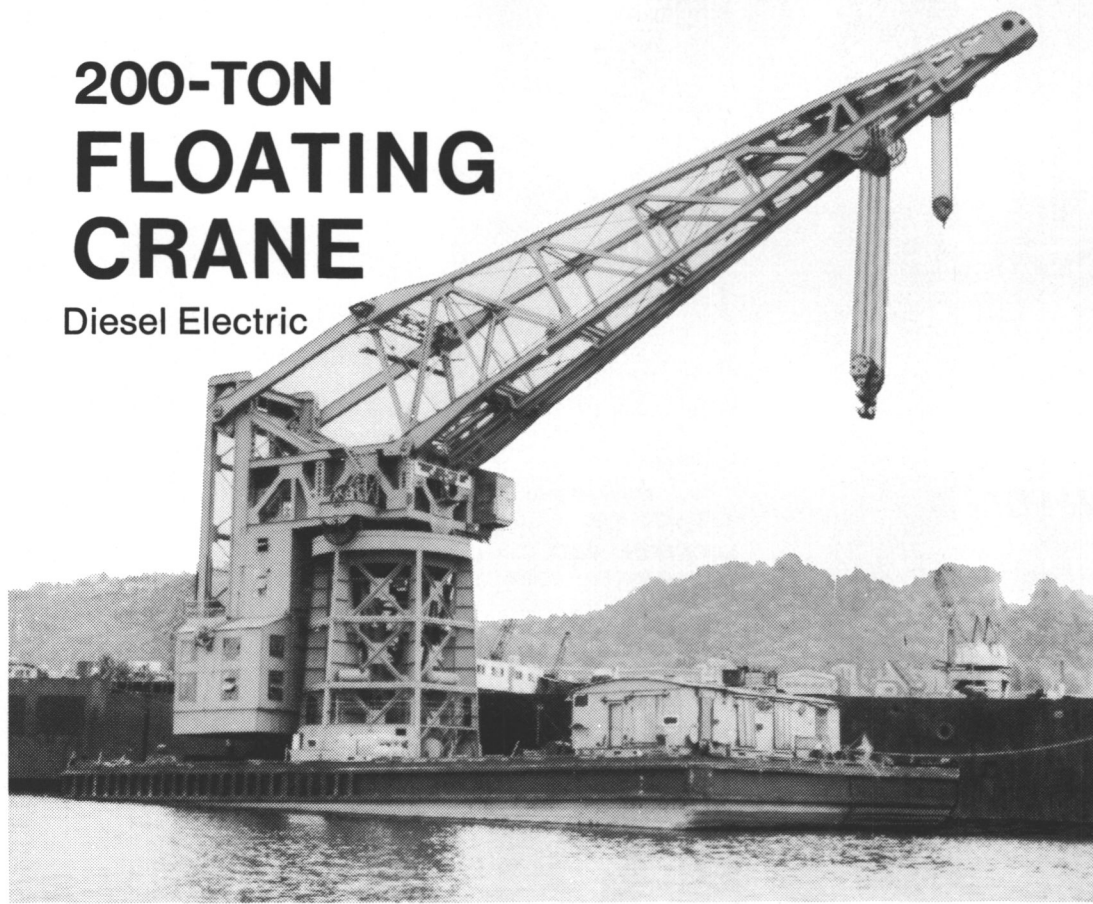
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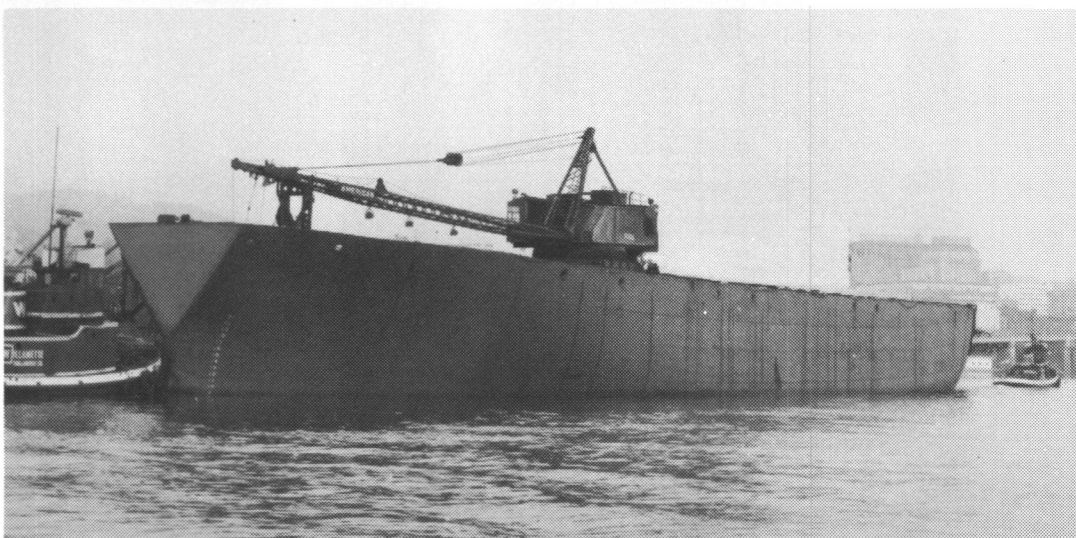
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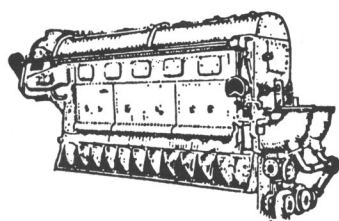
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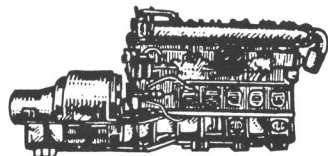
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1 — 300 KW, ALLIS-CHALMERS Turbine, 440 PSI, 470 HP, 8000 RPM, with Allis-Chalmers Generator, 300 KW, 240/240 Volts DC, Type HO, 1200 RPM.

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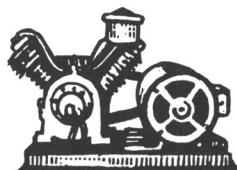
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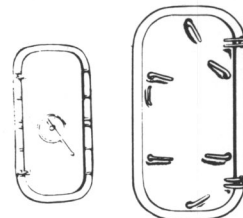
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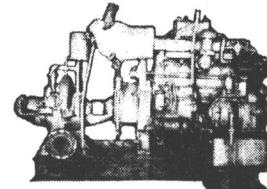
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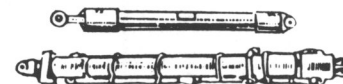
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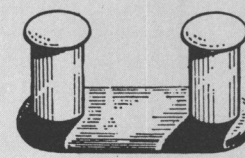
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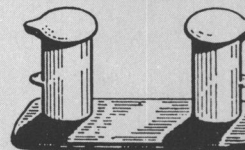


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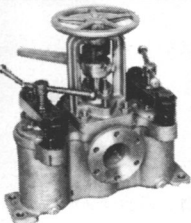
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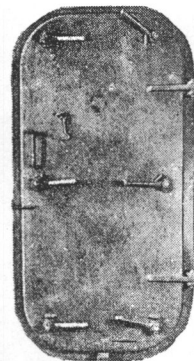
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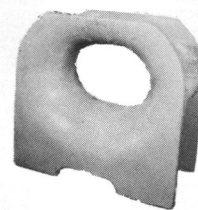
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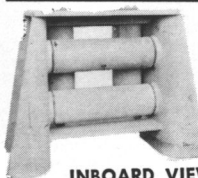
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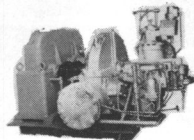
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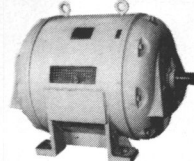


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M. P. Hawlett, Inc., 410 32nd St., Union City, N.J. 07087
Lake Shore Inc., P. O. Box 809, Iron Mountain, Mich. 49801
Marathon LeTourneau Company, P.O. Box 2307, Longview, Texas 75601
Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

PHB (Pohlig-Heckel-Bleicher), Vereinigte Maschinenfabriken AG, Pohlgrist 1, D-5000 Koln 51, Cologne, Germany
Weeks Stevedoring Co., Inc., 216 North Avenue East, Cranford, N.J. 07016

DECK COATINGS—Non-Slip

American Abrasive Metals Co., 460 Coit St., Irvington, N.J. 07111

DECK COVERS—Chain Pipe

Lockstad Co., Inc., 179 West 5th Street, Bayonne, N.J. 07002
MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016
Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

DECK MACHINERY—Cargo Handling Equipment

AB Hagglund & Soner, Rep. in U.S.A. by Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
Appleton Marine, Appleton Machine Co., 618 S. Oneida St., Appleton, WI 54911
Markey Machinery Co., Inc., 79 S. Horton St., Seattle, Wash. 98134
New England Trawler Equipment Co., 291 Eastern Ave., Chelsea, Mass. 02150
Skagit Corporation, P.O. Box 151, Sedro-Woolley, Wash. 98284

DIESEL ACCESSORIES

Alnor Instrument Co., 7301 N. Caldwell Avenue, Niles IL 60648
Controls, Inc., 2655 U.S. Rt. 22, Union, N.J. 07083
Exhaust Controls, Inc., 2655 U.S. Rt. 22, Union, N.J. 07083
General Thermodynamics Corporation, 150 Ballardvale St., Wilmington, Mass. 01887
Piston Products, Inc., 11406 Bloomfield Avenue, P.O. Box 1079, West Caldwell, N.J. 07006

DIESEL ENGINES

Alco Power Inc., 100 Orchard St., Auburn, N.Y. 13021
Caterpillar Tractor Co., Industrial Division, Peoria, Ill. 61629
Colt Industries Inc., Power Systems Div., Beloit, Wisc. 53511
Electro-Motive Division General Motors, La Grange, Illinois 60525
Goltzen Marine Co., Inc., 160 Van Brunt St., Brooklyn, N.Y. 11231
Mitsui Engineering & Shipbuilding Co. Ltd., 6-4 Tsukiji, 5-chome, Chuo Ku, Tokyo, Japan

MTU/Motoren-und Turbinen-Union, Friedrichshafen GmbH, P.O. Box 2040, D-7990 Friedrichshafen, W. Germany
Oosterhuis Industries Inc., 1800 Engineers Road, Belle Chasse, La. 70037
H.O. Penn Machinery Co., Inc., 1561 Stewart Ave., Westbury, N.Y. 11590
Power & Propulsion Systems, Inc., 9821 Katy Freeway, Houston, Texas 77024

DIVERS

RMP Marine Services, Inc., Pier D, Berth 34, Long Beach, Calif. 90802
Undersea Systems, 112 W. Main St., Bay Shore, N.Y. 11706

DOCK BUILDERS

DeLong Corporation, 29 Broadway, New York, N.Y. 10006
GHH Sterkrade, Ferrostaal Overseas Corp., 17 Battery Place, New York, N.Y. 10004

DOORS—Watertight—Joiner

Overbeke-Kain Co., 20905 Aurora Rd., Cleveland, Ohio 44146
Walz & Krenzer Inc., 400 Trabold Road, Rochester, N.Y. 14624

ELECTRICAL EQUIPMENT

AMP Special Industries (Div of AMP Products Corp), P.O. Box 1776, Paoli, Pa. 19301
Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N. Y. 10013
General Regulator Div., Forney Engineering Co., 3405 Wiley Post Road, Addison, Texas 75001
Merrin Electric, 1120 Clinton Street, Hoboken, N. J. 07030
Oceanic Electrical Mfg. Co., Inc., 159 Perry Street, N.Y. 10014
Port Electric Supply, 157 Perry Street, N.Y., N.Y. 10014
Rapid Electric Co., Inc., P.O. Box 2915, Brookfield, CT 06804
Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

EQUIPMENT—Marine

Alexander Industries, Inc., 1901 Julia Street, New Orleans, LA 70113
Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N. Y. 10013
Beaver Tool & Machine Co., 525 S.E. 29th St., Oklahoma City, OK 73109
Comet Marine Supply Corp., 157 Perry St., New York, N.Y. 10014
Kearfott Marine Products, 550 South Fulton Ave., Mount Vernon, N.Y. 10550
Nicolai Joffe Corp., P.O. Box 2445, 445 Littlefield Ave., So. San Francisco, Calif. 94080
Merrin Electric, 1120 Clinton Street, Hoboken, N.J. 07030
Peck Equipment Co., 3500 Elm Avenue, Portsmouth, Va. 23704
Thompson Marine Supply, Inc., 11 Broadway, New York, N.Y. 10004
Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wisc. 53186

EVAPORATORS

Riley-Beard, Inc., P.O. Box 1115, Shreveport, La. 71130

FAIRLEADS—Blocks and Rigging

Crosby Group, Box 3128, Tulsa, Okla. 74101

FANS—VENTILATORS

Aerovent, Inc., #1 Aerovent Drive, Piqua, Ohio 45356
Camar Corp., 186 Prescott St., Worcester, Mass. 01605
Coppus Engineering Corp., 344 Park Avenue, Worcester, Mass. 01610
Dasic International Corp., 1035 Southeast Ninth Street, Portland, OR 97214
Merrin Electric, 1120 Clinton Street, Hoboken, N.J. 07030
Zidell Explorations, 3121 S.W. Moody St., Portland, Ore. 97201

FENDERING SYSTEMS—Dock & Vessel

Hughes Bros., Inc., 17 Battery Place, New York, N.Y. 10004
Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062
Morse Chain Company, Div. Borg Warner, So. Aurora St., Ithaca, N.Y. 14850

FINANCING—Leasing

General Electric Credit Corp., P.O. Box 8300, Stamford, Conn. 06904
Kidder, Peabody & Co., Inc., 10 Hanover Square, New York, N.Y. 10005
Lazard Freres & Co., One Rockefeller Plaza, New York, N.Y. 10020
Lehman Brothers Inc., One Williams Street, New York, N.Y. 10004
Warburg Paribas Becker Inc., 2 First National Plaza, Chicago, Ill. 60670

FITTINGS & HARDWARE

Robvon Backing Ring Co., 675 Garden St., Elizabeth, N.J. 07207
Superior Switchboard & Devices, Division of Union Metal Manufacturing Company, P.O. Box 590, Canton, Ohio 44701

FURNITURE

Bailey Joiner Co., Inc., 74 Sullivan Street, Brooklyn, N.Y. 11231
Inland Marine Industries, 1818 Harrison St., San Francisco, CA 94103

GANGWAYS

Rampmaster Inc., 1226 N.W. 23rd Ave., Fort Lauderdale, Fla. 33311

HULL CLEANING

Butterworth Systems, Inc., P.O. Box 9, Bayonne, N.J. 07002
East Coast Marine Associates, Inc., 80 Broad Street, New York, N.Y. 10004
MP Industries Inc., 1200 Ponca St., Baltimore, Md. 21224
U.S. Phosmarine Inc., 3186 Airway Ave., Bldg. F, Costa Mesa, CA 92626

Wheelabrator-Frye, 621 S. Byrkit Ave., Mishawaka, Ind. 46654

HYDRAULICS—Launching Equipment

Hydranautics, P.O. Box 1068, Goleta, Calif. 93017

INERT GAS—Generators—Systems

Airfilco Engineering, Inc., 1901 Julia St., New Orleans, La. 70113

INSULATION—Cloth, Fiberglass

Amatex Corp., 1032 Stanbridge Street, Box 228, Norristown, PA 19404
Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
Cryogenic Structures Corp., 10 Fairway Court, Northvale, N.J. 07647
Have Industries, Inc. (A subsidiary of Hercules, Inc.) 900 Greenbank Road, Wilmington, Delaware 19808

INSURANCE

Adams & Porter, 1819 St. James Place, Houston, Texas 77027
Adams & Porter, 5 World Trade Center, Suite 6433, New York, N.Y. 10048
R.B. Jones Insurance, 911 Main St., Kansas City, MO 64199
R.B. Jones Insurance, 120 S. Central Ave., St. Louis, MO 63105
R.B. Jones Insurance, 160 Water St., New York, N.Y. 10038

KEEL COOLERS

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

LADDERS

Duo-Safety Ladder Co., 513 West 9th Ave., P.O. Box 497, Oshkosh, Wisc. 54901

LOFTING SERVICES

Cal & Associates Inc., 3101 37th Street, Metairie, La. 70001

MACHINE TOOLS

Master Machine Tools, Inc., 1300 East Avenue A, Hutchinson, Kansas 67501

MARINE CONSTRUCTION

Morrison-Knudsen Company, Inc., P.O. Box 7808, Boise, ID 83729

MARINE SERVICE

General Electric, Schenectady, N.Y. 12345
Siemens Corporation, 186 Wood Avenue South, Iselin, N.J. 08830

MATERIAL HANDLING SYSTEMS

W.A. Whitney Corp., An Esterline Company, 650 Race St., Rockford, Ill. 61105

MOORING SYSTEMS

Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS

Advanced Marine Enterprises, Inc., Suite 500, 2341 Jefferson Davis Highway, Arlington, Va. 22202
Alpha Engineers, 7215 N.E. 13th Ave., Vancouver, Wash. 98665
American Standards Testing Bureau, Inc., 40 Water Street, New York, N.Y. 10004
Amirikian Engineering Co., Chevy Chase Center Bldg., Suite 505, 35 Wisconsin Circle, Chevy Chase, Md. 20015
Anchorage Marine Services Incorporated, 844 Biscayne Boulevard, Miami, Florida 33132

J.L. Bludworth, P.O. Box 5217, Houston, Texas 77012
Boquer & Associates, P.O. Box 30184, New Orleans, La. 70190
Breit & Garcia, Naval Architects, 441 Gravier St., New Orleans, La. 70130

CADCOM Inc., 2024 West St., Suite B, Annapolis, Md. 21401
R.A.CADY-Marine Survey Practice, 2301 Leroy Stevens Road, Mobile, Ala. 36609
Catalina National, Inc., 1725 Monrovia Ave. (Suite A4), Costa Mesa, CA 92627

C.D.I. Marine Co., Regency East, Suite 222, 9951 Atlantic Blvd., Jacksonville, Florida 32211

Childs Engineering Corp., Box 333, Medfield, Mass. 02052
Coast Engineering Co., 711 W. 21st St., Norfolk, Va. 23517
Crandall Dry Dock Engrs., Inc., 21 Pottery Lane, Dedham, Mass. 02026
Francis B. Crocco, Inc., Box 1411, San Juan, Puerto Rico
C.R. Cushing & Co., Inc., One World Trade Center, New York, N.Y. 10048

Design Associates, Inc., 3308 Tulane Ave., New Orleans, La. 70119

Designers & Planners, Inc., 114 Fifth Ave., New York, N.Y. 10011

M. Mack Earle, 103 Mellor Ave., Baltimore, Md. 21228

Parker C. Emerson & Associates, 17935 Cardinal Drive, Lake Oswego, Oregon 97034

Christopher J. Foster, Inc., 14 Vanderventer Ave., Port Washington, N.Y. 11050

Friede and Goldman, Ltd., 225 Baronne St., New Orleans, La. 70112

Gibbs & Cox, Inc., 40 Rector Street, New York, N.Y. 10006

John W. Gilbert Associates, Inc., 58 Commercial Wharf, Boston, Mass. 02110

Phillip Gresser & Associates (PTE) Ltd., 122 Eng Neo Ave., Singapore 11

Morris Guralnick Associates, Inc., 550 Kearny Street, San Francisco, Calif. 94108

J.J. Henry Co., Inc., Two World Trade Center—Suite 9528, New York, N.Y. 10048

Hydranautics, Incorporated, 7210 Pindell School Road, Howard County, Laurel, Maryland 20810

Jantzen Engineering Co., 6655-H Amberton Drive, Baltimore, Md. 21227

James S. Kroger & Co., Inc., 3333 Rice St., Miami, Fla. 33133

Littleton Research and Engrg. Corp., 95 Russell St., Littleton, Mass. 01460

Robert H. Macy, P.O. Box 758, Pascagoula, Miss. 39567

Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114

Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, N.Y. 11746

Maritime Service Company, 1357 Rosecrans St., Suite B, San Diego, CA 92106

Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225

John J. McMullen Associates, Inc., 1 World Trade Center, New York, N.Y. 10048

George E. Meese, 194 Acton Rd., Annapolis, Md. 21403

Metritape, Inc., 77 Commonwealth Ave., West Concord, Mass. 01742

Nelson & Associates, Inc., 2001 N.W. 7th Street, Miami, Florida 33125

Nickum & Spaulding Associates, Inc., 811 First Ave., Seattle, Wash. 98104

Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114

Miles G. O'Hara, steam control systems consultant, 9355 Milford Lane, Mentor, Ohio 44060

Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156

S.L. Petchul, Inc., 1380 SW 57th Ave., Fort Lauderdale, Fla. 33317

Proto-Power Management Corporation, P.O. Box 494, Mystic, Conn. 06355

M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013 and 657 Mission St., San Francisco, Calif.

Sargent & Herkes, Inc., 611 Gravier St., New Orleans, La. 70130

Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316

Seaworthy Engine Systems, P.O. Box 327, Canton, Conn. 06019

George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007

T. W. Spaetgens, 156 West 8th Ave., Vancouver, Canada V5Y 1N2

SRS Shipping Research Services Inc., 205 S. Whiting St., Alexandria, VA 22304

The Stanwick Company Maritime Systems Department, 3661 E. Virginia Beach Blvd., Norfolk, VA 23502

R. A. Stearn, Inc., 100 Iowa St., Sturgeon Bay, Wisc. 54235

Richard R. Taubler Inc., Treadway Towers, 9 E. Lockerman St., Dover, Delaware 19901

H.M. Tiedemann & Co., Inc., 295 Greenwich Ave., Greenwich, Conn. 06830

Timco, 951 Government St., Suite 2161, Mobile, Alabama 36604

Uhlig & Associates, Inc., 8295 S.W. 188th St., Miami, Florida 33157

Undersea Systems, 112 W. Main St., Bay Shore, N.Y. 11706

Wesley D. Wheeler Associates, Ltd., 104 East 40 St., Suite 207, New York, N. Y. 10016

NAVIGATION & COMMUNICATIONS EQUIPMENT

American Hydromath Co., Buckwheat Bridge Rd., Germantown, N.Y. 12526

Automated Marine Systems Division, Litton Systems Canada Limited, 21101 Oxnard St., Woodland Hills, CA 91364

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BUYERS DIRECTORY (continued)

PAINT—Coatings, Protective

Caroline Co., Marine Div., 350 Hanley Industrial Court, St. Louis, Mo. 63144
 Clearkin Chemical Corporation, Schiller & Allen Sts., Philadelphia, Pa. 19134
 Eureka Chemical Co., P.O. Box 2205, So. San Francisco, CA 94080
 Farboil Company, 8200 Fischer Road, Baltimore, Md. 21222
 Hempel's Marine Paint, Inc., 25 Broadway, New York, N.Y. 10004
 International Paint Co., 17 Battery Place North, Suite 1150, New York, N.Y. 10004
 Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817
 Products Research & Chemical Corp., (PRC Coating and Sealants Div.) 5430 San Fernando Road, Glendale, California 91203
 Union Carbide Corporation, 250 Park Avenue, New York, N.Y. 10017
 Woolsey Marine Industries, Inc., 100 Saw Mill Road, Danbury, CT 06810

PETROLEUM SUPPLIES

Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002

PILOT LADDERS—Wood Products

A.L. Don Co., 58 Grant Avenue, Carteret, N.J. 07008

PIPE—HOSE—Cargo Transfer, Clamps, Couplings

Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696

Kubota, Ltd., 22, Funade-cho 2-chome, Naniwa-Ku, Osaka, Japan
 Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

PLASTICS—Marine Applications

Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231

PLATENS

Welding Wholesale Co., Div. J.A. Cunningham Eqp., Inc., 2151 Dreer St., Philadelphia, Pa. 19125

PROPELLERS: NEW AND RECONDITIONED—SYSTEMS

Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150
 J.W. Berg, S-430 90 Ockero, Gothenburg, Sweden
 Bird Johnson Company, 110 Norfolk St., Walpole, Mass. 02081
 Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
 Escher Wyss GmbH, P.O. Box 798, Ravensburg, Germany
 Lips BV, Lipsstraat 52, Drunen, Netherlands
 Propulsion Systems Inc., 21213 76th Ave. South, Kent, Wash. 98031
 Voith Schneider—U.S. Agent: Krupp International, Inc., 550 Mamaroneck Ave., Harrison, N.Y. 10528

PROPULSION—Marine

Combustion Engineering, Inc., Windsor, Connecticut 06095
 Delaval Turbine Inc., Turbine Div., Trenton, N.J. 08602
 In-Place Machining Co., 1929 N. Buffman St., Milwaukee, WI 53212
 Maritime Industries Ltd., 6307 Laurel St., Burnaby, B.C., Canada V5B 3B3
 Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
 Schottel of America, Inc., 21 N.W. South River Dr., Miami, Fla. 33128
 Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523

PUMPS—Repairs—Drives

Delaval Turbine Inc., IMO Pump Division, P.O. Box 321, Trenton, N.J. 08602
 FMC Corporation, Pump Division, 326 So. Dean Street, Englewood, N.J. 07631
 Hydro-Craft, Inc., 4223 Edgeland, Royal Oak, Mich. 48073
 Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030
 Terry Corporation, P.O. Box 1200, Windsor, CT 06101
 Worthington Pump Inc., P.O. Box 1250, Mountainside, N.J. 07092

RATCHETS

CM American, Division Columbus McKinnon Corp., P.O. Box 74, McKees Rocks, Pa. 15136

REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
 Port Refrigeration Div., 157 Perry Street, New York, N.Y. 10014
 Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523

RIGGING & BLOCKS

Crosby Group, P.O. Box 3128, Tulsa, Okla. 74101
 Superior Switchboard & Devices, Division of Union Metal Manufacturing Company, P.O. Box 590, Canton, Ohio 44701
 D. Van Beest En Zn B.V., P.O. Box 57, Merwestraat 1-5, Slidrecht, The Netherlands

ROPE—Manila—Nylon—Hawsers—Fibers

American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431
 Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110
 The Cordage Group, Columbian Drive, Auburn, N.Y. 13021
 Wall Rope Works, Inc., Beverly, N. J. 08010

RUDDER ANGLE INDICATORS

Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
 Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
 Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.

SCAFFOLDING EQUIPMENT

Trus Joist Corp., P.O. Box 60, Boise, Idaho 83707

SCALERS

Chicago Monarch, Box 9751, Cleveland, Ohio 44140
 Corrosion Dynamics, Inc., 1100 Walnut Street, Roselle, New Jersey 07068

SEARCH LIGHTS

Perko, P.O. Box 64000D, Miami, Fla. 33164

SEWAGE—Pollution Control

Argo Marine, Pollution Systems Division, 140 Franklin St., New York, N.Y. 10013
 Baylor Company, P.O. Box 36326, Houston, Texas 77036
 Colt Industries, Water & Waste Management Operation, Beloit, Wisc. 53511

Demco, Inc., P.O. Box 94700, Oklahoma City, OK 73109
 Eureka Chemical Co., P.O. Box 2205, So. San Francisco, CA 94080
 Engelhard Industries, Chloropac Systems, 2655 U.S. Rt. 22, Union, N.J. 07083

LaMere Industries, Inc., (Marland Environmental Services and Clear Water, Inc.) 227 N. Main Street, Walworth, WI 53184
 Mapco, 1437 So. Boulder Ave., Tulsa, Okla. 74119
 Marine Moisture Control Co., Inc., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696

Microphor, Inc., P.O. Box 490, Willits, CA 95490
 Red Fox Industries, P.O. Drawer 640, New Iberia, La. 70560
 St. Louis Ship FAST Sewage Systems, 611 East Marceau St., St. Louis, Mo. 63111

Sigma Treatment Systems, 603 Dean Street, Brooklyn, N.Y. 11238

SHAFTS, SHAFT REVOLUTION INDICATOR EQUIP.
 Armco Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043

Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
 Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

SHIPBREAKING—Salvage

American Ship Dismantlers, Inc., Division of Schnitzer Industries, 3300 N.W. Yeon Avenue, Portland, Ore. 97210
 The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202
 General Metals of Tacoma, Inc., 1902 Marine View Dr., Tacoma, Washington 98422

Levin Metals Corp., 1310 Canal Blvd., Richmond, CA 94807
 National Metal & Steel Corp., 691 New Dock St., Terminal Island, Cal. 90731

Zidell Explorations, Inc., 3121 S. W. Moody St., Portland, Ore. 97201

SHIP MODELS

Jas Foley & Son, 506 Seventh Street, Santa Monica, Calif. 90402

SHIPBUILDING STEEL

Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042
 Bethlehem Steel Corp., 25 Broadway, New York, N.Y. 10004

SHIPBUILDING—Repairs, Maintenance, Drydocking

Arab Shipbuilding & Repair Yard Co., P.O. Box 5110, Bab-Al-Bahrain Building, Bahrain, Arabian Gulf

Astilleros Espanoles, S.A., 17, Padilla, Madrid 6, Spain
 Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150

Bethlehem Steel Corp., Shipbuilding, 25 Broadway, N.Y., N.Y. 10004
 Blohm + Voss AG, D-2000 Hamburg 1, P.O.B. 10 07 20

Blohm + Voss Co., 55 Morris Ave., Springfield, N.J. 07081
 Blount Marine Corp., P.O. Box 368, Warren, RI 02885

Bludworth Shipyard, Inc., (Subsidiary of Elpac, Inc.), 8502 Cypress St., Houston, Texas 77012

Boston Marine Industrial Park, Public Drydock No. 3, 60 Congress St., Boston, Mass. 02109

Carrington Slipways Pty. Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322

CCL Shipcare Limited, Easton Lane Winnall Estate, Winchester Hampshire, England SO237QU

Conrad Industries, P.O. Box 790, Morgan City, La. 70380
 Curacao Drydock Co., Inc., P.O. Box 153, Willemstad, Curacao, Netherlands Antilles

Dravo Corporation, One Oliver Plaza, Pittsburgh, Pa. 15222
 Dravo Steelship Corp., R.4, Box 167, Pine Bluff, Ark. 71602

Equitable Shipyards, Inc., P.O. Box 8001, New Orleans, La. 70122
 FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, Oregon 97208

General Dynamics, Quincy Division, Quincy, Mass. 02169
 Gladding-Hearn Shipbuilding Corporation, 1 Riverside Avenue, Somerset, Mass. 02725

Granges Repair Service GmbH, P.O. Box 3166, Gutenbergring 64, D-2000 Hamburg-Norderstedt, Germany

Halper Marine Services, Inc., Route 6, Box 287H, New Orleans, La. 70126

Harland & Wolff Shipbuilding & Engineering, Queens Island, Belfast, Northern Ireland

Havre de Grace, Havre de Grace, Md.
 Hillman Barge & Construction Co., P.O. Box 510, Brownsville, Pa. 15417

Hitachi Shipbuilding & Engrg. Co., Ltd., 47 Edobori 1-Chome, Nishi-Ku, Osaka, Japan

Hongkong United Dockyards Ltd., Kowloon Docks, Hong Kong
 Hyundai Mipo Dockyard Co., Ltd., 456 Cheonha-dong, Ulsan, Korea

Hyundai Shipbuilding & Heavy Industries Co., Ltd., 5 World Trade Center, Suite 679, New York, N.Y. 10048

Jeffboat, Inc., Jeffersonville, Ind. 47130
 Kawasaki Heavy Industries, Ltd., Kawasaki Kisen Kaisha, Ltd., 8 Kaigan-dori, Kura-ku, Kobe, Japan

Keppel Shipyard Ltd., P.O. Box 2169, Singapore
 Kockums Shipyard, S-201, 10 Malmo 1, Sweden

Lantana Boatyard, Inc., 808 N. Dixie Hwy., Lantana, Fla. 33460
 Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, Wash. 98134

Marathon Manufacturing Company
 Marathon LeTourneau Offshore Company, 1700 Marathon Building, 600 Jefferson, Houston, Texas 77002

Marathon LeTourneau Gulf Marine Division, P.O. Box 3189, Brownsville, Texas 78520

Marathon LeTourneau Marine Division, LeTourneau Rural Station, Vicksburg, Mississippi 39180

Marathon LeTourneau Offshore Pte., Ltd., P.O. Box 83, Taman Jurong Post Office, Singapore 22, Singapore

Marathon Shipbuilding Company, P.O. Box 870, Vicksburg, Miss. 39180

Marathon Shipbuilding Company (U.K.) Ltd., Clydebank Dunbartonshire, G81-1YB, Scotland

Marinette Marine, Ely Street, Marinette, WI 54143
 Matton Shipyard Co., Inc., P.O. Box 428, Cohoes, New York 12047

Maxon Marine Industries, Inc., P.O. Box 349, Tell City, Ind. 47586
 J. Ray McDermott & Co., Inc., P.O. Box 60035, New Orleans, LA 70160

Mercantile Marine Engineering & Graving Docks Co., N.V., Antwerp, Belgium

Misener Industries, Inc., 5353 Tyson Avenue, P. O. Box 13625, Tampa, Fla. 33681

Mitsui Shipbuilding & Engrg. Co. Ltd., 6-4, Tsukiji 5-chome, Chuo-ku, Tokyo, Japan

Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655
 Moss Rosenberg Verft A.S., P.O. Box 53, 1512 Jellay/Moss/Norway

Murray & Stewart (Marine) (PTY) Ltd., Ocean Road-Table Bay Harbour, P.O. Box 1909, Cape Town 8000, South Africa

National Steel & Shipbuilding Corp., San Diego, Calif. 92112
 Navimar U.S.A., One World Trade Center, Suite 3557, New York, N.Y. 10048

Neorion Shipyards Syros, Ltd., Syros, Greece
 Northwest Marine Iron Works, P. O. Box 3109, Portland, Oregon 97208

O.A.R.N. (Officine Allestimento-Riparazioni Navi), P.O. Box 1395, Genoa, Italy 16100

Paccoci, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, Fla. 33156

Perth Amboy Dry Dock Co., Perth Amboy, N.J. 08862
 Port Allen Marine Service, Inc., P.O. Box 108, Port Allen, LA 70767

St. Louis Shipbuilding—Federal Barge, Inc., 611 East Marceau, St. Louis, Mo. 63111

Sasebo Heavy Industries Co., Ltd., New Ohtemachi Bldg., Chiyoda-ku, Tokyo, Japan

Savannah Machine & Shipyard Co., P.O. Box 787, Savannah, Ga. 31402

Sembawang Shipyard (Pte) Ltd., P.O. Box 3, Sembawang, P.O. Singapore, 27

Sumitomo Heavy Industries Ltd., 2-1 Ohtemachi 2-chome, Chiyoda-ku, Tokyo, Japan

Swiftships Inc., P.O. Box 1908, Morgan City, LA 70380

Terrin Shipyards, Societe Provencale des Ateliers Terrin, 287, Chemin De La Madraque, 13345 Marseille—Cedex 3, France

Todd Shipyards Corp., 1 State St. Plaza, New York, N.Y. 10004
 Tracor Marine, P.O. Box 13107, Port Everglades, Fla. 33316

Union Dry Dock & Repair Co., Foot of Pershing Road, Weehawken, N.J. 07087

Vancouver Shipyards Co., Ltd., 50 Pemberton Ave., North Vancouver, B. C., Canada

Wiley Mfg., a unit of AMCA International Corp., Suite 200/Stockton Bldg., University Office Plaza, Newark, Del. 19702

SHIP STABILIZERS

Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of Sperry Rand Corp.

SHOCK CORDS

Wm. B. Bliss Inc., 381 Park Ave. So., New York, N.Y. 10016

SMOKE INDICATORS

Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928

STUFFING BOXES

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

TANK CLEANING

Butterfield Systems Inc., P.O. Box 9, Bayonne, N.J. 07002
 Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

TANK LEVELING INDICATORS

Gems Sensors Div., Delaval Turbine Inc., Spring Lane, Farmington, Conn. 06032

GPE Controls, Inc., 6511 Oakton Street, Morton Grove, Illinois 60053

TERMINALS—Oil-Transfer

Transportation Concepts & Techniques, Inc., 551 Fifth Avenue, New York, N.Y. 10017

TOWING—Vessel Chartering, Lighterage, Salvage, etc.

Bay-Houston Towing Co., 805 World Trade Bldg., Houston, Texas 77002

Chotin Transportation, Inc., 1414 One Shell Square, New Orleans, La. 70139

Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202

Henry Gillen's Sons Lighterage, 21 West Main St., Oyster Bay, N.Y. 11771

Gulf Mississippi Marine Corp., 225 Baronne St., New Orleans, La. 70112

James Hughes, Inc., 17 Battery Pl., New York, N.Y. 10004
 McAllister Bros., Inc., 17 Battery Pl., New York, N.Y. 10004

McDonough Marine Service, P.O. Box 26206, New Orleans, La.
 Moran Towing & Transportation Co., Inc., One World Trade Center, Suite 5335, New York, N.Y. 10048

Suderman & Young Towing Co., Inc., 918 World Trade Building, Houston, Texas 77002

Turecamo Coastal & Harbor Towing Corp., One Edgewater St., Clifton, Staten Island, N.Y. 10305

B.V. Bureau Wijsmuller, Postbus 510, Ijmuiden, Holland

TURBINES

Camarc Corp., 186 Prescott St., Worcester, Mass. 01605
 Nicolai Jaffe Corp., P.O. Box 2445, South San Francisco, CA 94080

Terry Corporation, P.O. Box 1200, Windsor, CT 06101

UNDERWATER SERVICES

Undersea Systems, 112 W. Main St., Bay Shore, N.Y. 11706

VACUUM LIFT SYSTEMS

DP Way Corp., 3822 West Elm Street, Milwaukee, Wisc. 53209

VALVES AND FITTINGS

American-Darling Valve, Div. of American Cast Iron Pipe Co., P.O. Box 2727, Birmingham, Ala. 35202

Contromatic Div., Litton Industrial Products, Inc., 222 Roberts St., East Hartford, CT 06108

Demco, Inc., P.O. Box 94700, Oklahoma City, Okla. 73109

Flexitall Gasket Co., 5 Linden Street, Camden, N.J. 08102

Leslie Company, 399 Jefferson Road, Parsippany, N.J. 07054

Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696

Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

Stow Manufacturing Co., 86 Bump Road, Binghamton, N.Y. 13902

Robert H. Wager Co., Inc., Passaic Avenue, Chatham, N.J. 07928

Waukesha Bearings Corp., P.O. Box 798, Waukesha, WI 53186

VIDEO EQUIPMENT

Televideo Corporation, 1014 Wirt Road, Houston, Texas 77055

WATER PURIFIERS

Everpure Inc., 600 North Blackhawk Drive, Westmond, Ill. 60559

WEATHER FORECASTS

Fleetweather, Orbit Lane, Hopewell Junction, N.Y. 12533

WINCHES

Clyde Iron, a unit of AMCA International Corp., Suite 200/Stockton Bldg., University Office Plaza, Newark, Del. 19702

Gearmatic Co., Ltd., 7400 132nd St., Surrey, B.C., Canada

Markey Machinery Co., 79 South Horton St., Seattle, Washington 98134

Skagit Corporation, a subsidiary of The Bendix Corporation, Sedro-Woolley, Washington 98284

WINDOWS

Kearfoot Marine Products, A Singer Co., 550 South Fulton Avenue, Mt. Vernon, N.Y. 10550

WIRE AND CABLE

Anixter Bros., Inc., 4711 Golf Road, One Concourse Plaza, Skokie, Illinois 60076

Elkan Electric Cable Co., 248 Third St., Elizabeth, N.J. 07206

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Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042

Bethlehem Steel Corp., Bethlehem, Pa. 18016

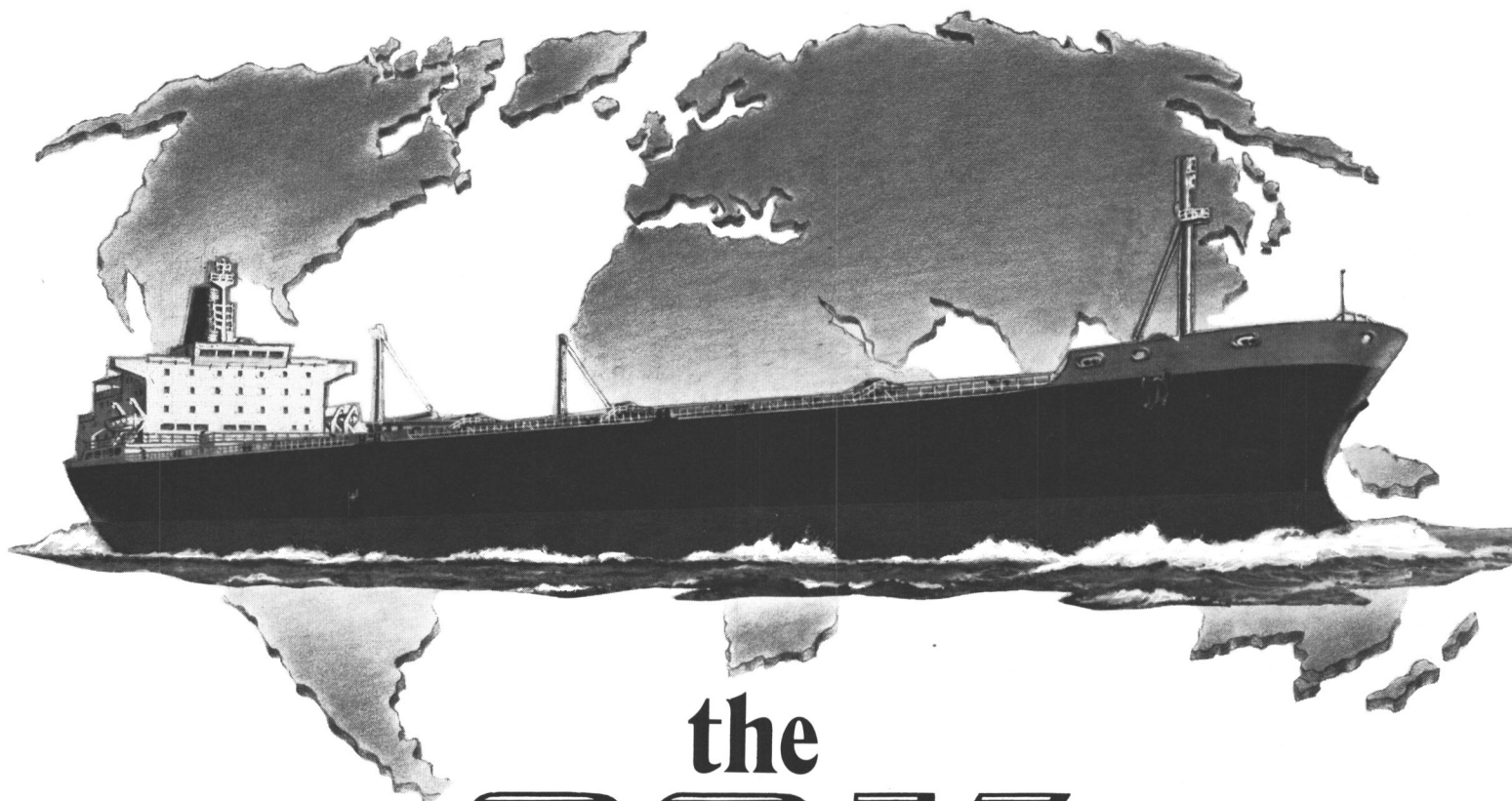
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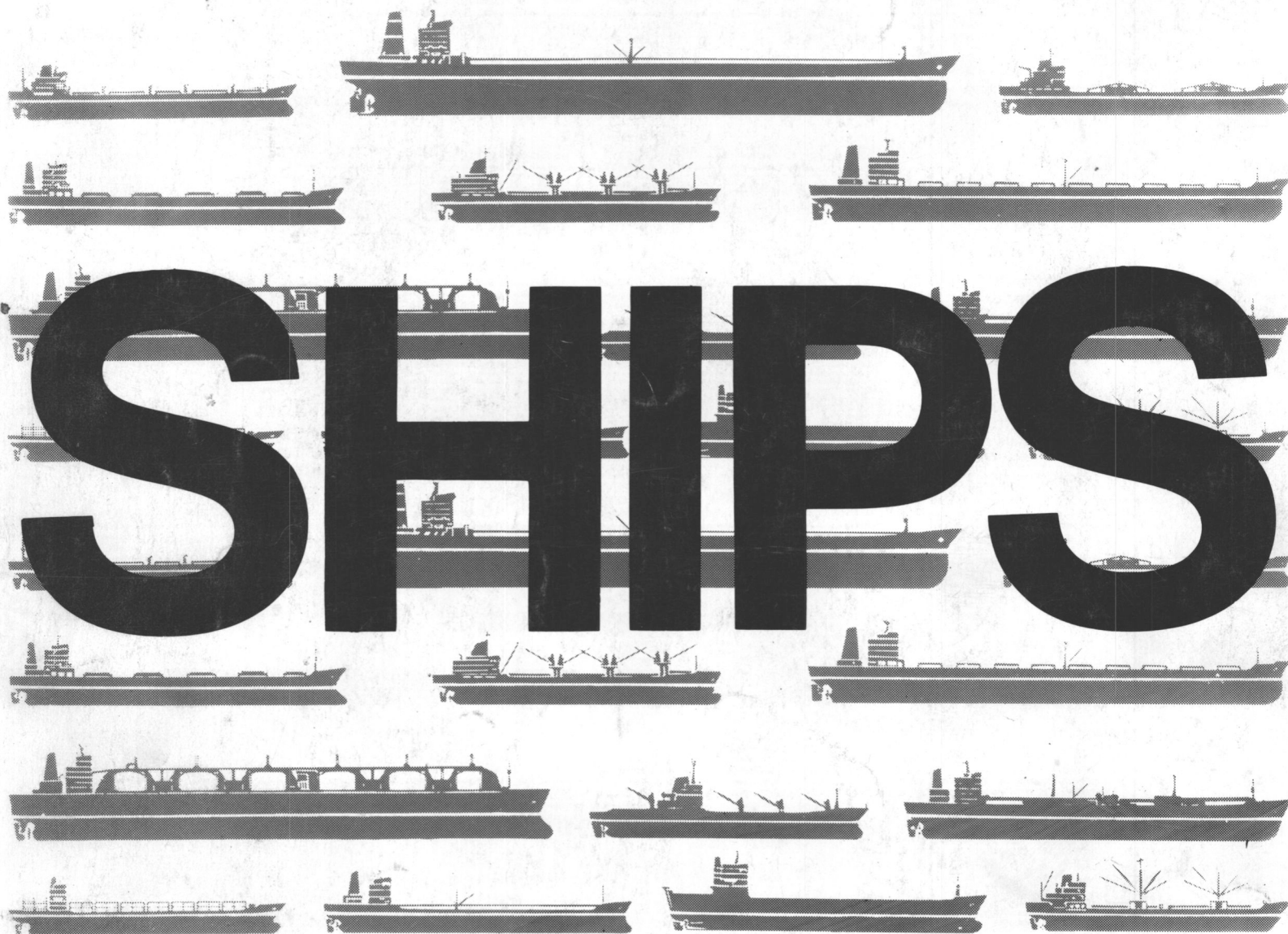
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